THE

AMERICAN MEDICAL AND PHILOSOPHICAL REGISTER.

APRIL, 1812.

ORIGINAL COMMUNICATIONS.

I.

A DISCOURSE *on the* IMPORTANCE *of* MEDICAL EDUCATION; *delivered on the 4th of November*, 1811, *at the opening of the present session of the Medical School of the College of Physicians and Surgeons. By* SAMUEL BARD, M. D. *President of the College of Physicians and Surgeons.*

A SOUND mind in a sound body constitutes the principal happiness and perfection of man. The means, therefore, by which such great and essential benefits are to be secured, have ever been the objects of his most anxious solicitude and serious inquiry. Bountiful nature has placed both, to a certain degree, within our reach; but she has not offered them gratuitously to our acceptance; and if we would enjoy, we must consent to

purchase them at the price which she has invariably set upon these and every other blessing, which she pours profusely around us. That price, (young gentlemen, I address myself particularly to you,) that price, *is persevering industry and well directed labour;* without which nothing great or excellent was ever attained; and when properly aided by these, it is not easy to set limits to the powers of man, or to say what he may not achieve. Nor is this universal law of our nature more applicable to the health of the body, than it is to the improvement of the mind, "every exercise of which, upon the theorems of science, (says the admirable author of the Hermes,) tends to call forth and to strengthen our native and original vigour. Be the subject immediately productive or not, the nerves of reason are braced by mere employ; and we become better actors, in the drama of life, whether our parts be of the sedate or of the active kind."

Men, in every state of society, are compelled to acknowledge these truths; and it is only in the ends they have in view, in the variety of those things which they believe to be good and useful, that the untutored savage differs from the civilized man; that the ignorant and the vicious differ from the wise and the good. The means by which the objects of their pursuit are acquired, are the same in both. "It is as easy to become a scholar, as it is to become a gamester, or any other character equally low and illiberal; the same application, the same quantity of habits, will fit us for the one as completely as for the other." Indeed, we are in a peculiar degree the creatures of habit, and it is as easy to establish good and useful, as it is to establish evil and pernicious habits. Hence, the great value and import-

ance of education, that such talents and faculties as God and nature have given us, may not only be called forth, but that they may be restricted within proper bounds and limits, and may be directed to their proper objects, to public and to private happiness. Otherwise, like seed committed to a luxuriant soil, but not enlivened by a genial sun, they may lie buried and inactive for ever; or, if not restrained by due culture, they will shoot out into wild and luxuriant branches, which will never produce good and wholesome fruit.

Man is an active and a restless being; nothing becomes so insupportable to him as continued inaction; if he is not doing good, he will, most probably, do evil; he will do mischief rather than do nothing. Even the savage, to whom rest is the most dignified, as well as the most grateful enjoyment, continually has recourse to the laborious toils of the chase, or to the fatiguing dangers of war, to relieve himself from the irksome feelings of protracted quiet. And in civilized life, the envied qualities of great genius and brilliant talents, when unimproved by study, and unrestrained by discipline, too frequently, like a wandering and blazing meteor, burn and destroy every thing they approach; but when restricted in their course by proper discipline, and directed by wisdom and virtue, they warm and cherish, and illuminate like the sun. It is, therefore, in the constitution of our frame, and in the natural structure of our minds, that we discover the reason and truth of the maxim, that the peace of society and the stability of government, especially of free governments, depend upon the instruction, information, and correct habits of the people. To give these a proper direction, and to establish them firmly, we must begin with early youth; we must lay the founda-

tion of all pure religion, as well as of good government in our common schools. From whence, otherwise, shall offices be filled with ability; where shall we find just magistrates, and able teachers of religion and virtue? Where the protectors of our rights, and our properties; where the preservers of our health and our lives, if we neglect to instruct our youth, and leave them to grope their devious way, without a clew or a compass, through the labyrinths of this mazy world?

Conscious knowledge gives dignity of character, adds to the weight of authority, and renders the example of its manners more seductive. A wise and able magistrate, a learned professor of the law, a humane and benevolent physician, no less than an enlightened teacher of religion, contribute to the happiness of posterity, as well as to that of the age in which they live. By their example they mend the characters of those with whom they associate, and by their precepts they sow the seeds of excellence, which to future ages may bless and exalt their country; nor can there be a doubt, but that sound learning and correct taste, (independent of all principle) give a sensibility to the mind very favourable to virtue, and, at the same time that they become the source of happiness in themselves, place us above the necessity of seeking it from sources less pure.

But general observations on the necessity and advantages of education, are at least unnecessary, before this audience; we are rather called on to approve and admire the noble exertions, which our government is making on this important subject. The free school established in this city, reflects the highest honour on the wisdom, liberality, and benevolence of its patriotic founders; and the man who can walk through it, and be-

hold five hundred innocent children, rescued from filth and misery, from ignorance and vice, trained in habits of order, decency, and industry, and instructed in useful learning, correct morals, and pure religion, without feeling his bosom expand with a generous philanthrophy, or his eye moisten with a sweet and delicious tenderness, must be strangely deficient in the best sentiments and finest feelings of the human heart. The progress that has already been made, and the good that has already been experienced from this noble institution, leaves us nothing to desire or to pray for, but that its wise and benevolent founders will extend their generous care to the state at large; and that we may soon see the ample funds, provided for this purpose by our government, appropriated to their destined object; to the establishment of similar institutions, as far as circumstances will permit, in every town of every county. Then, and I had almost said not before, we may hope to see pure religion and good morals triumph over ignorance and vice; and industry, decency, and content, banish, from the cottages of our poor, idleness, intemperance, and misery. Our government has proved itself not insensible to the importance of this great object; and I trust we do not want intelligent and disinterested individuals, who would gladly give their time and labour, to apply the public resources, trusting to receive, in the approbation of their own consciences, in the blessings of the rising generation, and in the applauses of the wise and the good, the most grateful remuneration.

Let us then turn our attention to that branch of learning, to which we of this college are particularly devoted; and consider, and endeavour to explain the nature of such public institutions and patronage, as experience has

proved to be useful, and indeed necessary, in the education of an accomplished physician and surgeon.

Medicine is a comprehensive and an intricate science, founded on numberless facts, which have been discovered through the successive periods of distant ages, and have been collected and preserved in the writings of almost innumerable authors, of different nations and tongues. They have necessarily been coloured and disfigured by the credulity of some, rejected, lost, and again revived by the cautious discrimination of others; elucidated by after discoveries, and contradicted or confirmed by later experience. In ignorant ages and barbarous nations, this science has ever been connected with religion, involved in mystery, and disfigured by superstition; as men advanced from barbarism, it assumed a more rational form, and resting on the solid basis of experience, began to acquire beauty, symmetry, and strength; until, as the refinement of a speculative philosophy prevailed, theoretic opinions were substituted for facts, and the subtilties of the schools, and the wanderings of the imagination, for sound reasoning and chaste deduction. By these the progress of medical science, though not absolutely arrested, was greatly checked and retarded, until, by the great discovery of the circulation of the blood by Harvey, and the introduction of a sounder philosophy by Bacon, in which opinion was made to give place to observation and experience, and a patient investigation of facts was substituted for the sophistry of the schools; the science of medicine was again placed on its proper foundation, nature, observation, experience, and sound reasoning.

From this moment, anatomy, chemistry, natural history, and natural philosophy, which, although they had before been in the train of medicine, had rather ac-

companied than directed her researches, were impressed into her service, and made to take the lead in a medical education. Nor until he has made considerable progress in these, and is aided by the knowledge of languages, can the student of medicine be properly qualified, even to begin what is the great object of his pursuit, the study of diseases and their cures.

In a profession so various, so intricate, and so extensive, it is easy to see, that the scholar can make but little progress by private study; lost and bewildered in the multiplicity of objects, and in the contrariety of opinions, he absolutely requires the hand of a master to lead him into the plainest and most direct path; to remove, as he goes along, the obstacles which may obstruct his progress, and to point out such objects as are most worthy his observation. Nor are there many individuals capable of teaching all the preliminary branches; each of which is sufficiently extensive to employ the time, and to occupy the attention of a man of no common talents and industry.

Besides, chemistry requires an elaboratory, botany a garden, and anatomy a theatre and subjects; and above all, the study of diseases and the practice of medicine, cannot be taught but in a public hospital. As much, therefore, as oral instruction and the voice of the professor, is to be preferred to the silent investigations of the closet, still more is required; the co-operation of several teachers, and the facilities of a public institution; among which a large and commodious building, furnished with proper apartments for a library, an apparatus, a museum, an anatomical theatre, a chemical elaboratory, proper lecturing rooms, and a public hall, is essentially necessary to a good medical school, and that too in a large city, where

only (in this country at least) anatomy and the practice of medicine can be properly taught. In both these, the student must not only receive the instructions of his teachers, he must not only reflect on, and digest what he hears and reads, he must see, and handle, and examine for himself. In anatomy, the subject, properly prepared, must be placed before him; without this, the most accurate description, even when aided by the finest plates and drawings, will be found perfectly inadequate to convey correct ideas, or to make durable impressions on the mind; the parts must be unfolded by the knife, they must be distended by injections, and whatever is uninteresting, and obscures their intimate structure, must be removed, or the student will look with a vacant eye upon what, to him at least, will appear a confused and unformed mass. And if possible, after having been taught what he is to look for, and what is most worthy his observation, he should handle the knife and the syringe for himself; he should learn how to prepare the subject for the instruction of others.

In chemistry, the science of nature, by which we are admitted into her confidence, are taught her secrets, and learn her processes, but slow progress can be made without a teacher, aided too by an extensive apparatus. For although by the introduction of a more correct language and a more liberal philosophy, all the jargon and mystery in which the old chemists clothed their communications and concealed their art, have been done away, still the multiplicity of facts, the delicacy of the processes, and the variety of the apparatus are such, that practice only can give that dexterity which is necessary to insure success; and to acquire that dexterity unassisted, would require more time, and would be accompanied by greater ex-

pense and loss, than most students of medicine, at least, could well bear.

In botany and natural history, the number of objects to be examined, and with which it is necessary to become intimately acquainted, is so great, that without a garden and a museum, without arrangement and system, no correct or valuable knowledge can be acquired.

And lastly, in the study of diseases, and in the practice of medicine, no histories, however accurate, no reasoning, however just, can convey the knowledge necessary for their treatment and cure. The student must see, and hear, and feel for himself; the hue of the complexion, the feel of the skin, the lustre or the languor of the eye, the throbbing of the pulse, and the palpitations of the heart, the quickness and the ease of respiration, the tone and tremor of the voice, the confidence of hope, or the despondence of fear, expressed in the countenance, baffle all description; yet all and each of these convey important and necessary information. Where can these be learnt, but at the bed side of the sick, and where shall a number of young men, who cannot be admitted into the privacies of families, or to the chambers of women, acquire this necessary and important information, but in public hospitals, which are not only intended to relieve the complicated misery of poverty and sickness, but as schools, should always be made conducive to the public good, and as such, even more than as charitable institutions, merit and receive the patronage of government.

But, besides the impossibility of teaching medicine in private, there are many advantages which attend public institutions in this, as well as in most other arts and sciences; and one is, that in general, from the division of the subject into many hands, a more enlarged, com-

prehensive, and systematic view of the whole will be taken; its connection with, and dependence on other branches of learning, will be more certainly pointed out, and general laws and first principles better taught; by which the student learns what are the proper objects of his inquiry at each stage, and as he goes along, is taught how to make a proper use of his previous acquirements and experience.

Young men too, engaged in the same studies, mutually assist each other; emulation, which warms and engages the passions on the side of whatever is excellent, cannot be excited without rivals, and without emulation in the scholar, instruction will proceed but at a languid rate; improvement will creep but slowly on, and excellence is never attained. Nor is emulation confined to the scholar; the emoluments of the teacher depend on his fame, and both on his talents and industry. Stimulated, therefore, by his interests, and spurred on by his ambition, he will make every exertion to recommend his lectures, which he knows are to be brought to the ordeal of a nice and critical examination. Among his hearers, there will always be a number of the elder students, very capable of judging of his merits, and very willing to discover and expose his errors. Such a system of education cannot long be conducted in a slovenly or incompetent manner; negligence will sit very uneasily, and incompetence cannot long keep her seat in a professor's chair.

Nor is it by exciting their emulation only, that young men, assembled at a public school, are of use to each other; they mutually instruct one another by their daily conversation; and in societies, formed for the purpose of discussing professional subjects, of examining each others opinions, and the opinions and doctrines of which they

read in books, or which they hear from their professors. These they examine, confirm, or confute, (the elder students taking the lead) with a degree of attention and acuteness, which is no inadequate test of their truth and usefulness, which serves to explain them to their understandings, and to confirm them on their memories, with more clearness and precision, than hearing them many times repeated by their professors.

Indolence is the greatest enemy to learning; but indolence is a vice bred and nourished in solitude, and can hardly exist at a public school, except in minds of so heavy a mould as to be incapable of culture. On the other hand, to labour without plan or design, may, indeed, accumulate a confused mass of materials; but use, beauty, order, and proportion, are the result of skill, and to erect such materials as we may have collected, into a convenient and elegant edifice, requires the hand of a master. So the scholar, who trusts to his own researches, or who is directed by an inadequate guide, may load his memory and confound his judgment, by a great number of facts and a medley of opinions; by which, however, he will most probably be bewildered in a labyrinth, which will lead him into error, and terminate in darkness and confusion. But, he who has been properly initiated in the rudiments of his art, pursues his improvement in the light of day; every step he takes brings him nearer to his end; every fact and opinion he learns takes its proper place; the whole is arranged in lucid order, and knowledge, clear, precise, and conscious knowledge, is the happy result.

But in no profession, are sound learning, clear and definite opinions, and correct conduct, of more consequence, than in that of medicine; in the exercise of which, our

dearest interests, our own lives and health, and the lives and health of our wives, and children, and friends, are deeply and essentially concerned. For let it be remembered, that there is no middle course in medicine ; it is a mistake to suppose that the conduct of a physician, unless intentionally, is ever of that neutral and inconsequential nature, that although it may do no good, it will do but little harm ; if through ignorance a physician does not do good, he will, most probably, do much injury, for our occasions of acting are so fleeting, that they must be seized at the moment, and to omit the opportunity of affording relief, is frequently to do all that is necessary to render the case under our care fatal or desperate. If a dysentery, a pleurisy, an apoplexy, or indeed almost any acute disease, be neglected in the beginning, protracted illness generally, and frequently death, is the consequence.

Nor, on the contrary, is there any profession in which that cautious diffidence, which is the result of deep knowledge, is of greater consequence. In our profession, to know when to act with vigour, when to look on with patience, and from what circumstances to deduce the arguments for either, is the result only of a thorough knowledge of our subject, and that meddling presumption, which is ever the companion of ignorance, is in no profession more dangerous.

Nor are the happy consequences of a good education in medicine confined to the chambers of the sick. A physician must necessarily, in some measure, become the companion, and frequently the intimate friend of his patient. His knowledge, therefore, and his example, become extensively useful or prejudicial. Is he wise, and good, and learned ; his learning will instruct, his humanity will bless, and his good example will amend many

among those with whom he daily converses. Is he ignorant, and loose, and debauched; what mischief may he not do to the younger members of those families who put their confidence in him, and who generally look up to him as a character of superior talents, learning, and worth. And again, the medical character is not only very influential, it is the most numerous among the learned professions; the example, therefore, of a physician's knowledge and virtues, or the contamination of his ignorance and his vices, will assume a wider and a more extended range.

If, therefore, it is the interest of the people, and if it becomes the wisdom of government, to promote and patronise true learning, and to furnish the means of correct information and regular instruction in any art or profession, it most certainly does so in that of medicine; the most intricate, the most extensive, and except that of religion, the most important, and most influential of any.

It is, therefore, with perfect sincerity, and I hope, from a candid and enlarged view of the subject, that I congratulate you, gentlemen, and my fellow citizens at large, on the establishment of this *College of Physicians and Surgeons, and the Medical School connected with it*, which, if properly supported and encouraged, cannot fail to afford to our youth, who shall choose medicine for their profession, the means of a regular, full, and complete system of medical education. But a lamp cannot burn without oil, and to leave to the exertions of individuals, the whole weight of establishing and supporting so extensive and expensive an institution, is only to insure disappointment. To this cause I do not hesitate to attribute the want of success which has attended our former attempts; and from the better hopes we have been taught to entertain

for our present establishment, I venture to predict the full accomplishment of our wishes. Although, therefore, we sincerely lament the misapprehensions which have deprived us of the aid of several gentlemen, connected with Columbia College, as well as of some formerly connected with this; still we have not hesitated to assume the honourable stations to which the Regents have appointed us; and confidently trusting, that they will continue to foster us, have determined zealously to persevere under their auspices. Our foundation is strong, our materials are good, our patronage powerful, and our labourers eminently skilful, and zealously industrious. Although, therefore, already far advanced in the vale of life, I do not despair, but I may still have the happiness to see these benches crowded with ingenuous youth, and this establishment affording to its liberal patrons an honourable testimony of their extensive and patriotic views; to its professors, an ample remuneration for their learned labours; to our youth, the source of the most valuable instruction; and, to our country at large, the substantial blessings of better health, improved morals, and extended information.

II.

REPORT *on the* NATURE *of the* YELLOW FEVER, *which prevailed in the cities of Carthagena and Alicant, in* 1811. *By* R. Y. VANCE, *Esq. Surgeon to the Forces. Communicated for the Register.*

His Majesty's brig Richmond, at Sea, 1st September, 1811.

SIR,

IN obedience to the orders of his excellency, Lieutenant-General Campbell, and the instructions I re-

ceived from you, to proceed to the ports of Carthagena and Alicant, for the purpose of ascertaining the nature of the disease said to prevail in those places, I have now the honour to inform you, after making the most minute investigation in the Lazaretto, City, and Royal Hospitals in Carthagena, I have no hesitation in declaring, that the same disease exists there at present which prevailed in the years 1804 and 1810, and which, with some variations, I have witnessed so many Europeans fall victims to in the West-Indies.

The patient is generally attacked suddenly with cold shiverings, pains in the head, back, loins, and thighs; the skin becomes excessively hot; the pain of the head increases, particularly over the orbits of the eyes; the eyes themselves appear to the patient as if forcing from their sockets, have a particular red or fiery appearance, and the whole face appears considerably flushed; a continual restlessness prevails, the patient constantly throwing himself from one side of the bed to the other; at this period the pulse is very frequent, seldom under one hundred and twenty, and generally much more. Considerable irritability of the stomach always prevails; the vomiting at first of a bilious appearance, and sometimes only the drink that has been swallowed; but, as the disease advances, assumes a darker colour, and lastly deposits a grainy sediment resembling the grounds of coffee. From this stage of the disease no patient has been observed to recover; and, in those cases that have terminated fatally, or assumed the most serious appearances, suppression of urine has generally taken place. On the first attack, the tongue has generally a white appearance, which gradually becomes darker, with a brown streak in the centre, and towards the close of the disease, becomes

quite black, furred, and dry. When the disease has advanced rapidly, the patient often becomes delirious on the second day, and dies either furious or comatose on the third, and sometimes on the fifth; but, when the crisis has taken place on the seventh day, the black vomiting has been always most frequent. In some who have died comatose on the fifth day, considerable quantities of pure blood have been vomited up. Sometimes the patient, after walking about and declaring himself well, has died perhaps in a few minutes.

About the third day, the eye looses its red appearance, and becomes tinged with yellow, after which it gradually extends to the face, neck, breast, &c. and, before death, generally assumes a lead or putrid-like appearance. The pulse, previous to this, has sunk considerably, and seldom beats oftener than fifty to sixty times in a minute. Hæmorrhages from the nose, mouth, ears, and bowels, have frequently happened; and vibices have sometimes made their appearance, as well as deafness and glandular swellings. On the first attack, the patient is generally costive; but previous to death, diarrhœa often takes place, and what is voided has always a black, putrid appearance, and excessively fetid smell. All these symptoms have not made their appearance in the same patients; but I have observed the whole in the numerous cases which presented themselves in the Lazaretto, and other hospitals in Carthagena. The disease has not been confined to any particular part of the town, nor is any person exempt from it who has not had it in the years 1804 and 1810.

I must beg leave to observe to you, that the number of deaths that has taken place (a diary of which I enclose) has not been exclusively occasioned by the yellow fever. The bilious remittent prevails here also; and in the

Royal Hospital I observed many of the soldiers labouring under what we call the jail fever, which they must have brought with them from the army, where, I understand, they have undergone much fatigue, and suffered great privations both in food and clothes.

The number of deaths may appear trifling for a town, the population of which is generally calculated at thirty-six thousand souls (the estimate in 1806;) but when you consider, that the fever last year reduced this number considerably, and that every person who had the means of escape has left it this year, leaving little more than a population of nine thousand in the city, most of whom had the disease upon former occasions, you will be able to form a more just idea of the mortality. The physicians cannot account for the disease making its appearance this year at Carthagena; but I have good reason to suppose it might have remained dormant during the winter, till roused into action again by the summer's heat; and I am more disposed to favour this opinion, from the circumstance of their using so little precaution last year; neither destroying the bedding, clothes, or other furniture, liable to preserve contagion, of any of the people who died of the disease, as they had done in the year 1804; and I am sorry to observe, they have gained little experience, as they pursue the same system to the present moment. The winds for several months have blown from the Levant; and the thermometer has generally ranged from eighty-two to eighty-four and eighty-six degrees, on Fahrenheit's scale.

In Alicant there is not the slightest degree of contagion existing at present, nor does it appear to have been so free from disease of any kind at any period for a series of years back. In the town of Elche, about four leagues

distant, the yellow fever is said to have made its appearance, in consequence of a soldier from Carthagena, with five or six people who assisted him in his illness, having died after a few days' sickness. But the communication with that part of the town they resided in having been cut off, sickness and mortality are said to have ceased; and as a cordon was placed between the two towns, and a most rigid quarantine established, had I availed myself of ocular information, I should not have been admitted into Alicant again.

In Murcia, the capital of the province, and distant about thirteen leagues from Alicant, the disease has made its appearance with much more serious effects. It is also said to have been carried there by some refugees from Carthagena; and the Junta of Alicant have placed it in a state of quarantine, in the same manner as that of Elche. However, as the cordon is placed so far from the city, and little attention paid to persons coming from the eastward, together with the number of people rushing there from the various places near Carthagena, where the French have made their appearance, I am strongly of opinion, that that place will not long be able to escape.

I feel myself much indebted to Major-General Roche, and the British Consul at Alicant, for the assistance they afforded me in every thing relating to the object of my mission. The Junta were equally disposed to render me every assistance. In Carthagena I also experienced every attention from the Governor General, Consul, and Physicians constituting the Board of Health, that the service I was employed upon could possibly require.

I have the honour, &c.

R. Y. VANCE,

Surgeon to the Forces.

Wm. Pym, Esq. Dep. Inspector of Hospitals.

Deaths from the 29th July to the 29th August, 1811, inclusive.

July 29..12	Aug. 6.. 4	Aug. 14..24	Aug. 22..17
30.. 5	7..11	15..14	23..19
31.. 5	8.. 7	16..12	24..24
Aug. 1.. 7	9.. 7	17.. 8	25..29
2.. 8	10..16	18..20	26..34
3.. 2	11.. 7	19..22	27..20
4.. 4	12..20	20..22	28..20
5.. 8	13..21	21.. 8	29..26

Total 463

PROCLAMATION.

Head-Quarters, Gibraltar, September 4, 1811.

Whereas an alarming fever has broken out at Carthagena, and other places on the coast of Spain, within the Mediterranean:

His Excellency the Lieutenant Governor has found it necessary to cut off all communication with Spain by sea and land; hereby calling on the inhabitants to come forward as conservators of the public health, as they did last year; and such as choose to volunteer this duty, as well as to keep improper persons out of the garrison, will take the trouble to send their names to the town major. Fourteen days quarantine from all ports of Spain within the Mediterranean, and ten days from those to the westward, as far as Ayamonte, are to be performed by all vessels, to be reckoned from the day of their anchoring in this bay. Ferry-boats, plying-boats, and bum-boats, are to be laid up, except such as may be found necessary

by the pratique master, and those are to have a health guard.

Night-fishing to be discontinued until further orders, and the fishermen and boats to be mustered by the pratique master, night and morning, and to be accompanied with health guards.

The above regulations, which are adopted to preserve the health of this garrison, are to be most strictly obeyed.

By command,

JOHN RUTHERFORD, Sec'ry.

III.

A Case of Anthrax; successfully treated. *By* DAVID HOSACK, M. D. *Professor of the Theory and Practice of Physic and Clinical Medicine, in the University of New-York. Communicated to* GEORGE PEARSON, M. D. F. R. S. *by the Author.*

ALTHOUGH the disease, which is the subject of the following case, was well known to the ancients,* and has been well described by modern writers,† and is of so frequent occurrence as to fall under the notice of most practitioners; it is no less true, that there is at this day great difference of opinion as to the mode of treating it. It will be recollected, that, but a few years since, it was the

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* See Galen, Celsus, Fabricius.

† See Wiseman, Bromfield, Kirkland, David, Prix de L'Academie Royale de Chirurgie, tom. iv.

Pouteau, Œuvres posthumes. Pearson's Surgery. Cooper's Surgery.

subject of a public controversy in this city: and in Europe, surgeons are no less divided in the treatment of this disease, than they are in this country.

In 1794, I attended a case of carbuncle, in consultation with two of our eldest and most respectable practitioners. The inflammation exhibited by the tumour appeared so active, that we unanimously agreed on the application of lead-water; poultices of bread and milk; an abstemious diet, with the internal use of depleting remedies. Under this treatment, the febrile symptoms increased; the tumour extended; sphacelus ensued; and, in a few days, terminated in the death of the patient. The appearances, progress, and termination of this case, led me to the resolution to employ a very different treatment in those cases which might afterwards fall under my notice. Since that period, it has been my practice to support the strength of my patient by a nutritious and stimulant diet, and the free use of bark and wine; at the same time preserving the tone and action of the part itself, by frequently washing the tumour with spirits or brandy, and by the constant application of a poultice composed of *bark and yest*. Finding these remedies successful in many instances which have fallen under my care, I enclose to you the following case, in which this practice was pursued, under the most unpromising circumstances, and therefore is better calculated to establish the principles upon which the cure of this disease is to be conducted; especially when it occurs in advanced life, and is preceded by, or accompanied with, a scorbutic or vitiated habit of body, as, I believe, is most usually the case.

I am, with great regard
and respect, your's,
DAVID HOSACK.

On the 5th of March, 1808, I was called to Elizabethtown, in New-Jersey, to see Mr. John Hartshorne, aged 84, then on a visit to the family of Mr. Thomas Eddy.

He was extremely debilitated, and suffering much distress, from a tumour on the small of his back, which had been of several days continuance.

Upon inquiring into the history of the case, I was informed that the tumour, in the first instance, appeared like a common bile ; but having been preceded by several smaller ones, and an eruption on the skin, it excited very little attention on the part of his friends. It, however, very soon was attended with an acute burning pain, and began to spread, the adjacent part assuming a deep red or purple colour. The family physician was called, who, at that time, was not acquainted with the peculiar character of this disease, having never met with it before in his practice, and therefore, very naturally treated it as a common phlegmon ; applying the common cataplasm of bread and milk, for the purpose of inducing suppuration, together with the internal use of those remedies that are usually prescribed for the removal of simple inflammatory tumours.

The inflammation continued to extend, attended with severe pain in the part, fever, restlessness, loss of sleep, and occasional delirium. In this state I found him. The tumour appeared about six inches in diameter ; of a dark purple, livid colour ; extremely painful and sensible to the touch ; in the centre of the swelling the colour was still darker, and was attended with a discharge of a thin acrid humour, as is usual in erysipelatous inflammation, altogether exhibiting the symptoms of approaching sphacelus : his pulses were small and frequent ; his skin preter-naturally heated, and attended with a sense of itching

over the whole surface of the body; his tongue was moist, but foul; his bowels were costive, except when relieved by injections, which were occasionally administered; his urine were sparing in quantity, and high-coloured.

Under these circumstances, of a typhoid state of fever, attended with a gangrenous appearance of the tumour, we advised the part affected to be washed with a strong solution of soap and water, rendered more stimulant by the addition of a small quantity of rum or brandy, and afterwards a cataplasm of bark and yest to be applied over the whole surface of the tumour; the same to be renewed every four hours, making use of fresh yest at each application: a wine-glassful of a decoction of bark and Virginia snake root, was also directed to be taken every two hours, together with the free use of porter, panado made strong with wine, and soup, as his nourishments.

As he suffered a great deal of pain, he was also directed to take occasionally, throughout the day, about twenty-five drops of laudanum, and at night an anodyne draught, if otherwise he was unable to sleep. These directions were faithfully complied with.

Upon visiting him on the 7th, his symptoms were much changed for the better. The appearance of the tumour was more healthy, and assumed a brighter colour, but was somewhat increased in size, and in the extent of the inflammation; his pulses were more full, and less frequent; his strength was also improved; he suffered less pain, and discovered a greater inclination for nourishment than he had before done. As he was fond of eggs and oysters, they were also allowed him. All the other remedies were directed to be continued.

I did not see him again until the 12th; in the mean time the bark and yest poultice had been steadily continued, with his decoction of snake-root, a generous diet, the liberal use of wine, and anodynes whenever he suffered much pain, or was deprived of his rest. At this time the tumour began to discharge, at different parts of its surface, a very healthy* pus; the apertures were small, but numerous, resembling the cells of a sponge, or honeycomb. It continued thus to discharge for several days.

We did not think it necessary to enlarge the openings, through which the matter was evacuated, as directed by Mr. Kirkland, David,† Mr. Cooper,‡ and the Editors of the Edinburgh Practice of Physic and Surgery. In cases where the ulceration may be of greater extent than in the present instance, and the quantity of matter very great, this practice may be advisable and necessary. About the 22d, we directed the poultice to be omitted, and the wound to be dressed with simple cerate. Within twenty-four hours after this change in the application, the quality of the discharge was sensibly altered. Instead of a healthy pus, a thin sanies, as in the beginning of the disease, was again poured out. The complexion of the

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* I am not a little surprised at the observation of John Pearson (see Principles of Surgery) and the Editors of the Edinburgh Practice of Physic and Surgery, when they remark, that "an Anthrax never evacuates a laudable pus." Wiseman also observes, "that he never saw a true carbuncle suppurate." On the contrary, I am inclined to believe that the wound never heals without this change in the quality of the discharge.

† See a very valuable memoir on abscess, by this writer, in the Memoires de l'Acad. de Chir. tom. iv.

‡ See First Lines of the Practice of Surgery.

mour also assumed a darker appearance; and his friends again became alarmed for his safety.

Finding these changes, we again advised the tumour and neighbouring parts to be bathed with brandy, and the poultice of bark and yeast to be renewed.

From this time the wound recovered its healthy aspect, and continued to heal, without an unpleasant symptom. When the discharge totally ceased, and the wound had become cicatrized, a light compress of linen wet with rum or brandy, was directed to be applied to the yet tender surface of the part affected. As he still continued to complain of an itching over the whole surface of the body, we put him on the use of the decoction of sarsaparilla and guaiac.

On the 7th of April the cure was completed, when he returned to his family, in Monmouth.

If it were necessary, I could here add the history of another very formidable instance of this disease, as it occurred in the family of the British Consul, Col. Barclay; in which precisely the same treatment was pursued, and with the same happy result.

D. H.

IV.

Letter *on the* Indian Antiquities *of the Western Country, by Mr.* James Foster.

[The following letter, on a subject which has afforded much room for ingenious speculation, was originally addressed to Mr. Gilleland. It is now published with the view of making still farther known the facts which it contains. In his remarks, the writer very boldly dis-

sents from the opinions of the venerable Bishop Madison, as contained in his communication on the same subject, published in the American Philosophical Transactions, vol. 6; from those of Mr. Jefferson, in his Notes on Virginia, as well as from many other eminent authors, without, however, assigning reasons of sufficient weight materially to invalidate the conclusions which they have established.

The Editors have thought the present a fit occasion to present the annexed representations illustrative of an interesting subject of a somewhat similar nature. The originals are in their possession. The explanations, though brief, will probably be satisfactory.]—ED.

Chilicothe, Nov. 6, 1811.

In a former letter I promised to send you a description of the ruins of an Indian city which has been discovered in this state.

I was upon an electioneering excursion some weeks ago, when I came in company with Mr. De Voss, a gentleman who lives about eleven miles from this place, (Chilicothe,) and he politely invited me to his house. On our way thither we passed an Indian mound, which I made some remarks upon, and then inquired of him whether there were not in his part of the country, some antiquities that one might conveniently visit. He replied that there were some on his farm (for they are all farmers there) which would highly gratify the curiosity of any one, and that if I had any curiosity, he would go with me to examine them.

On the next morning we rose early and proceeded to examine a fortification which is on the *level summit of a high hill.* It contains about one hundred acres, and is enclosed by a *stone wall*, which, if we may judge from

the quantity of stones (for it is in ruins) must have been twelve or fifteen feet high, and four or five thick. Within the area there are about thirty furnaces, from some of which I took cinders that resemble in every way those formed in blacksmiths' forges. From some of them I got pieces of burnt unwrought clay that look somewhat like pumice stone, but are of a pale blue colour. Those lying on the surface of the earth are covered with coats of *rusty mail*, which probably had lain there since the days of Lycurgus.

The fort is nearly circular, and has, if I recollect rightly, ten passes or gates, which are placed at regular distances from each other.

At one of these passes, and on the outside, there is the appearance of a well or spring, enclosed with a stone wall. This well was intended, I suppose, to supply water to those who might have occupied the fort, as there is nothing like a spring or watering place within the limits of it.

There are trees now growing in this fortification which are four or five feet in diameter, and they appear to have been preceded by a race still more gigantic, if we may judge from the long traces left by those that have rotted into their native dust. Some of the largest grew out of the foundation of the wall, in places where the stone had tumbled down on the side of the hill.

These things show the antiquity of the work, but there are others that show it to have been also a work of great labour; for there are no stones that could be used for building, within a mile of the ruins, except in Paint Creek, which runs by the edge of a hill; but the creek stones are of a very different kind from those used in the wall.

At the bottom of the hill on the south west side are the ruins of the *town*, or rather *city*. The cellars and the stone foundations of the houses still remain. The streets are in regular squares. Near it there is a large mound perfectly level to the top. It was from all appearances the residence of a warlike race ; but a description of it will form the subject of a future communication.

The wildest speculations have often proved to be the most correct, and conjecture or accident are the leaders to the discoveries of experience.

But on this subject the first impressions will probably with most people be the last ; and the general opinion will be still generally admitted to be true.

The notion of bishop Madison, of Virginia, that those ancient works, whose remains appear in our country, were never intended as fortresses, is the most *outre* that I have known to be advanced. I think he has not had the opportunity of viewing any one built of *stone*. Very few, I presume, who have examined for themselves, will believe that these works contain the fixed habitations of the people who erected them. The situation of these fortifications (for I will venture to call them so) must have rendered them every way inconvenient for the settled residence even of a warlike people, and present only the advantage of security.

Placed on the summits of hills they screened those within from all missile weapons, and from all weapons, I suppose, their antediluvian inhabitants were acquainted with. The face of the hill formed the *glacis*, and superceded the necessity of a *fosse*.

Of that long destroyed race of people we know nothing except what we learn from their works ; even their traditions have sunk with them into a common grave.

INDIAN ANTIQUITIES.

But we have enough left in these vestiges of their labours and their wars, to convince us that they were much more civilized than the present Indian inhabitants of any portion of our continent.

Concerning the origin of the Indians there have been numerous learned, profound, and original conjectures. To me, the one that seems most reasonable is, that they are degenerated branches of the nations who erected these works; and those nations were originally from Asia, and if so, probably they are Scythians.

I am, my dear sir, with the sentiments of friendship and esteem, yours, &c.

JAMES FOSTER.

(See the annexed engraving.)

No. I. Represents a frog-shaped cup, found six feet below the surface, in digging a cellar in the State of Tennessee, near Nashville. It was originally in the possession of Judge Innes.

No. II. Represents a vase of Indian manufacture, washed out of a bank on the river Wabash, in the Indiana Territory. It was originally in the possession of Governor Harrison.

No. III. Represents an Indian vase, found under ground, in an inverted position, within the tenth town of Chenango County, State of New-York. It is of a capacity somewhat more than three quarts. The upper part, or mouth, is a little broken. The original was presented to Dr. Mitchill, by Jacob Bokee, Esq. of Dutchess County, (N. Y.)

V.

On the various Preparations and medical Virtues of the PERUVIAN *and other* BARKS; *in a Letter to* DAVID HOSACK, M. D. *from* CLARK SANFORD, M. D. *Connecticut.*

Greenwich (Conn.) January 7, 1812.

SIR,

When I had the pleasure of an interview with you, in New-York, I intended, agreeably to your request, shortly after to have forwarded the collection of barks, with their preparations, as referred to in my printed letter;—but owing to those delays and interruptions which are incident to a country practice, it has been postponed to the present time.

Should the specimens of bark now presented, and the explanations given of them in my letter, serve to elucidate inquiries concerning this branch of the materia medica, my views in laying them before you will be fully answered.

The box which covers this contains the principal barks which I have subjected to experiment and inquiry: and I have strong reasons for believing that this collection comprehends nearly every variety of Peruvian bark of any importance which is now to be found within the United States.

I regret that the samples of No. 1 and of No. 3 are so limited. The former could be procured only from a practitioner, residing in Virginia, and was forwarded in a letter. The latter has been handed out to friends, until the quantity left is very small. These specimens,

however, will serve to show the colour and configuration of each.

The powdered sample of No. 1 has been on hand and exposed to the air for nearly ten years, and is not in its present condition thought to be very active. All the others are recent, and deemed to be in a good state of preservation. I am unable to furnish any specimens of No. 2 and No. 7, which are referred to in my printed letter, there being none to be found in market.

The objects held up to view in my letter on the subject of the bark are naturally arranged under the following heads, to wit:

First. To establish this fact, that several varieties of bark have lately been brought into use, differing materially from those kinds which had heretofore been known and approved; and that many of those possess but feeble medicinal powers, whilst others are totally destitute of any properties nearly resembling the true bark.

Second. To point out the characteristic appearances of each kind, both in the crude and pulverised state, in such manner as to render them most easily distinguishable by the senses.

Third. To show that the middle coating, or that part lying between the epidermis and semi-ligneous or cortical, where the glands reside, the fluids are digested and elaborated, is that portion which contains the chief active principles of the bark: and to prove that this glandular or parenchymatous portion is capable, by mechanical means, of being separated in a good degree from the remainder.

Fourth. To ascertain their comparative medical powers, as well by noting their effects on the diseased subject,

as by the quantity of soluble principle which each affords to given menstruums.

Fifth. To ascertain by chemical tests the analogy which subsists between the dry extract or essential salt of bark, and the saturated infusion from which it is obtained; and to show by deductions from actual practice the medicinal value of this preparation.

Sixth. To inculcate the propriety and importance of administering the bark in the atonic state of disease in proportion to the lost excitement: and show that this object might generally be attained by adequate injections of this substance, even when the stomach would not retain it.

It seems now necessary to state only the result of subsequent observations made respecting the medical use of the essential salt of bark; to describe more particularly the manner of preparing this article; and to add some further particulars by which cinchona may be most readily and accurately distinguished from every other vegetable substance.

The diseases which have occurred during the late summer and autumn, have furnished considerable opportunity for further use of the essential salt of bark; the effects observed in the treatment of intermitting fevers correspond nearly with the opinion given of this preparation in my printed letter. It ought, however, to be remarked, that fevers of this description which were checked by this extract, were observed to recur more speedily after it was discontinued, and generally in a greater proportion of cases than when the powder was liberally employed.

I really concur in opinion with Vauquelin, that the effects produced by the essential salt are not proportional

to the bark from which it is taken ; nevertheless, I think that this preparation ought to be deemed of considerable importance. I have several times witnessed its great efficacy in the last stages of cholera infantum, as well as in other infantile complaints both of acute and chronic forms. As it is soluble in nearly the same quantity of water as sugar, it is remarkably convenient for the use of children.

It sets easier on the stomach, and is less liable to prove cathartic than the powder. Owing to its small bulk and convenient form for exhibition in pills, it can be used in a disguised form where the powder would be rejected. I have known it produce very happy effects, given in this way, where the naming of bark occasioned the most distressing loathing. This extract, when dissolved in much water, and kept in a warm situation, is speedily decomposed and becomes mouldy : therefore aqueous solutions of this substance ought to be used (especially in summer) within two or three days after being made.

In the preparation of the concrete or essential salts of the bark, great care and delicacy of management is required through every stage of the process.

The cold infusion ought to remain on the pulverized bark until the liquor is very transparent, say from twenty to thirty hours, the second infusion from thirty to forty, and the third from forty to fifty hours.

The clear liquor is then to be decanted, and after being filtered through several folds of fine flannel or bibulous paper, is to be evaporated in earthen plates in a degree of heat which is not painful to the operator, until about one half the quantity is reduced. At this point of evaporation the liquor ought to be decanted with a steady hand into other plates, to free it from an earthy-looking sedi-

ment which is thrown down by the heat. This part of the operation must be repeated, say once or twice more, or as often as any further sediment appears.

When the liquor is reduced to the consistence of thick syrup, the plates containing it are then to be removed from the bottom of the furnace, and placed above on slated scaffolds, until the salt is dry, and breaks up in brilliant scales.

It is only in a cool and dry atmosphere that this substance can be removed from the plates in a dry state, by reason of its great eagerness to absorb moisture.

Infusions of bark undergo the putrefactive fermentation during the summer months in so short a time that it frequently will happen that the first infusion only can be improved. For this reason, as well as on account of the deliquescent property of the salts, the temperate seasons are to be preferred for manufacturing this article.

I have hitherto confined my operations to the preparation of the dry extract by slow evaporation, according to the plan of the Count De Garaye, its inventor; and which that author and others have denominated the essential salt of the bark.

Should opportunity permit, I propose hereafter to attempt the preparation of the salts in the white and crystalized form, as is described by Vauquelin to be done by the Deschamps, in France. I design likewise to prosecute inquiries already begun respecting the properties and use of the dry extract of bark, which is obtained by means of alcohol. The result of which trials will in due time be submitted.

Until the experiments of Monsieur Vauquelin fell into my hands, I was persuaded that every bark, which when treated with water, precipitated galls and not animal

glue, was changed by solutions of iron to a darkish green colour, and imparted little or no colour to cold water, was a cinchona, and that such vegetable substances as did not afford these precise appearances when treated in the same way, contained little or none of the kinic principle. I was led to this conclusion, because it was supported by some respectable authorities, and because every genuine bark, of known and approved virtues, of whatever colour, which I had examined, afforded these phenomena in a conspicuous manner; and because other barks, resembling the Peruvian in their sensible properties of bitterness and astringency, (of which kind are the barks of the cornus florida and the salix alb) will not precipitate galls and turn iron green, but will form a copious precipitate with gelatin.

The Angustura, and the lately introduced bark under the name of Alcornoque, are the only two kinds which I have found when tested as above, to agree nearly with the Peruvian bark. These being of the growth of the same country with the bark, and being equally tonic, and perhaps febrifuge too, it is not unlikely that, by further experience, they will be found to belong to the family of the cinchona.

If the chemical experiments of Vauquelin are correctly stated, and those barks which he found to precipitate isinglass and not galls, and also give out to cold water and not colours, are barks containing the febrifuge principle, as he intimates; it would seem that the tests here contended for were made doubtful; or that a highly predominating astringency was in these particular barks held in combination with the kinic principle. But as this author has furnished no satisfactory evidence, derived from actual observation of their medicinal effects on the

human system ; and as many other astringent barks, which possess no febrifuge power, agree with them in chemical results, it may with propriety be doubted whether these supposed Peruvian barks have a stronger claim to our confidence, as febrifuge medicines, than the barks of the oak, persimmon, and numerous others. I think it may, therefore, be safely assumed, as before stated, that every bark, whose cold infusion is not higher coloured than a faint orange, which forms a copious whitish precipitate with the infusion of galls, little or none with the solution of isinglass, and which is changed by a solution of red or green sulphate of iron to a darkish green (not black or brown) is the true cinchona. The best red bark, marked No. 1, and the first quality of yellow, No. 5, produce, when treated alike, results so similar to each other, in regard to appearance of precipitate and colour of fluids, that they are not in this way easily distinguished. The long time required for the powder of the red bark to subside, from its containing water, probably has occasioned some mistake as to the colour of its cold infusion.

It is highly desirable that some means should be discovered of ascertaining the medicinal power of different kinds of Peruvian bark, with greater certainty than can be done by the taste and other senses ; and more readily than by observing the quantity of extract which they afford, or by the still more tedious means of observing their effects on the diseased patient. I had hoped that those agents which serve to identify the principles sought for, would likewise show the quantity of those principles. But I have not as yet been able to ascertain the quantity, by means of those agents which show the existence of the principle. For infusions of bark, whether they be made

strong or weak, afford with galls nearly the same quantity of precipitate; and weak infusions, when united with iron, do not differ visibly in colour, or otherwise, from stronger ones treated in the same way. This branch of our inquiry, in particular, requires further investigation; and I hope it will be prosecuted by those who have more leisure than commonly falls to the lot of a country practitioner.

With sentiments of great esteem,
I remain,
Your obedient servant,
CLARK SANFORD.

Dr. DAVID HOSACK.

VI.

VIEWS *of the* MANUFACTURES *in the* UNITED STATES; *derived from the Returns made to the Treasury, pursuant to an Act of Congress, passed May 1st,* 1810. *In a Letter from* SAMUEL L. MITCHILL *to the Hon.* THOMAS NEWTON, *dated Washington, January 7,* 1812.

DEAR SIR,

The act further to alter and amend the act providing for the third census or enumeration of the inhabitants of the United States, passed May 1, 1810, made it the duty of the several marshalls, secretaries, and their assistants, while they were taking the census of the people, to take also, under the direction of the secretary of the treasury, and according to the instructions he should give, an account of the several manufacturing establishments and manufactures within their several districts, territories, and divisions. It was directed that the whole of the infor-

mation so collected should be returned to the secretary of the treasury. It was enacted too that for such additional services, suitable compensation should hereafter be made by law. The money appropriated for counting the inhabitants and registering their manufactures, was one hundred and fifty thousand dollars, which is understood to have been more than enough to defray the whole cost.

Agreeably to the request of the committee of commerce and manufactures, I have paid some attention to the returns made by the marshalls on the state of manufactures in our country. They abound with information; though some of them are executed with greatly more care and exactness than others. Massachusetts appears to have been done with remarkable correctness and method, by counties and towns. The partial accounts are followed by a general recapitulation; and the whole is an example of order and perspicuity exceedingly creditable to Mr. Prince. South Carolina, on the contrary, is an example of carelesness beyond any of the returns. It is deficient in many important respects; and seems to have been sent away in such a hurry, that the columns of figures are not added together into an aggregate sum at the foot.

The information collected in the other states, evinces intermediate degrees of observation and accuracy. Yet it ought to be mentioned of New-Jersey, a state famous for industry and manufactures, that the county abstracts only are forwarded, without any summary whatever of the whole. To render the statement instructive, the reader must bestow the labour of forming the general conclusion; and in attempting this, he will discover frequent instances of incompleteness or inaccuracy. With

this may be contrasted the return from Pennsylvania, which evinces an extent of research, on the part of Mr. Smith, honourable to him as an officer, and exhibits the manual arts and trades of the commonwealth to which he belongs, in a highly advantageous light. Their numbers and kinds are displayed with extraordinary detail, both as to the branches carried on and capital employed.

I nevertheless undertook the task of making a general abstract, and of deducing a sort of comprehensive table. I began with the return of Mr. Curtenius, from New-York, and entered the total sums of his several articles in one line upon a sheet of paper. There I recorded the 867 tanneries, 491 distilleries, 42 breweries, 33068 looms, 467 fulling-mills, 413 carding machines, 26 cotton manufactories, 28 paper-mills, 124 hatteries, 6 glass-houses, 2 powder-mills, 18 rope-walks, 10 refineries of sugar, 28 oil-mills, 11 blast-furnaces, 10 air-furnaces, 44 cut-nail manufactories, and 48 forges, with some other things, particularly the cloths manufactured in that extensive commonwealth. On attempting, however, to arrange the other returns under the same heads, I found great difficulties in the way. For, though Connecticut, North Carolina, Kentucky, and indeed most of the states and territories, corresponded very well to a certain number of titles, yet many of the latter were so difform and various, that it was impossible to class them under corresponding heads.

There were further difficulties. Maine was observed by a different officer from him who took the census of Massachusetts. The return from that district is so unlike the one made by the other marshall, that it is extremely difficult, if not impossible, to make them correspond and harmonize. I despaired, therefore, of effecting

a reconcilement in the returns from the two parts of Massachusetts. Again ; Tennessee is in very much the same situation. The marshall of the western district of that state has made a valuable return ; his colleague of the eastern district has not equalled him in particularizing and distributing his subject, and besides, has pursued so different a plan that it is not practicable to adapt them.

I might easily make other observations. The return from Rhode-Island might be quoted for its minuteness and accuracy. But, notwithstanding the appearance of observation and fidelity which pervades it, there is almost or quite an impossibility of adjusting its materials with those contained in the other returns. The like remark applies to Ohio, though its return contains indications of perspicacity and diligence ; and to Michigan, whose secretary, Atwater, has furnished a paper which, though small, is a model of perspicuity and neatness.

After several attempts to arrange and methodize the materials, so as to bring them into one compendious view, I became convinced that my labours were fruitless, and I abandoned the undertaking. It is certainly a subject of regret that a grand total cannot be formed of all the manufacturing establishments in the nation. Yet we may rejoice that so much has been done. When the next census shall be taken, we may be more successful. An exact schedule of all the subjects of inquiry ought to be formed. These, if transmitted to the proper officers, would direct their attention to certain and definite objects. The returns would thereby be rendered uniform, and capable of being added up into one great account, exhibiting in a concordant and uniform manner all the subjects inquired into throughout the states and territories.

Some most valuable information is derived from these returns, incomplete and heterogeneous as they are. Under the head of sheep, for example, we learn that Vermont contains a stock of 450,000; Massachusetts 399,182; Connecticut 400,000; and Pennsylvania 1,466,918.—Among these are included the individuals of the merino breed, and of the mixed race derived from their communication with the ordinary kind. From these premises we deduce favourable conclusions as to the food derived from their carcasses, the leather from their skins, and above all the clothing from their fleeces.

The number of looms, and of carding and spinning machines, almost exceeds belief, as does also the amount of cloth prepared by the inhabitants. The woolen manufacture has prodigiously increased, as well in the quality and variety, as in the quantity of the goods. Such advances are already made toward supplying domestic fabrics enough to clothe the people, that but few years more will be necessary, under the existing commercial restrictions, to effect that important object.

The progress made in the preparation of cotton-twist, and of the articles into which it may be manufactured by the weaver, has been still more rapid and surprising. From a perusal of these papers, the most comfortable assurance is derived of the amount and fitness of these products of the loom, to afford a covering to man, and furniture for his habitation.

The fabrics of flax are also so far extended, and so much on the increase, as to excite the most cheering prospects of an augmented supply to our citizens, from their own proper labour and skill. The superior excellence of homespun linen is the strongest of all recommendations.

These papers contain a more distinct and interesting exhibition than we ever had before of the saltpetre manufactured in the states. Thus Virginia prepares 59,175 pounds; Kentucky 201,937; Massachusetts 23,600; East Tennessee 17,531; and West Tennessee, chiefly in Jackson, Warren, White, and Smith counties, 144,895; making nearly half a million pounds of home-made nitre, as good as that usually brought from foreign parts. It is alleged, the quantity may be increased to any desirable amount. The connection of this with numerous manufactories of gun-powder, puts us quite at our ease as to the nitrate of potash, and to the means we possess of compounding it.

The manufacture of straw is eminently worthy of notice. In Massachusetts, where the forming of bonnets from that material seems to have first begun, the yearly amount of the sales is not less than $551,988. The manufacture of straw bonnets has been since undertaken in Connecticut, and produces the yearly value of $27,100; and it is worthy of remark that the labours of two women in New-Jersey, in the same way, yielded them $140, amounting to the sum of $579,228, for the single article of straw bonnets.

Nor is the preparation of sugar from the juice of the maple-tree unimportant. Of this domestic sweet, Ohio produces, in a twelve-month, 3,023,806 pounds; Kentucky, 2,471,647; Vermont, 1,200,000; and East Tennessee, 162,340: making a quantity of nearly seven million pounds in these states only, wherein the returns may be conceived to be greatly within the truth.

Works in horn, ivory, and shell, have made a progress that is worthy of notice. The combs, for instance, which Connecticut prepares annually for market, are estimated at

$70,000; Massachusetts $80,624; and Pennsylvania $6,240; equalling a sum of $156,864.

I may mention too the abundance of copperas which West Tennessee, and Vermont afford. The quantity per annum from the former, is stated at 56,000 lbs.; and from the latter, at 8,000. The quality of these sulphates of iron are declared to be very fine, and that druggists and dyers may be supplied to any demand they may make.

The tanning of skins is displayed, in these surveys, to great advantage. Indeed, among a people who universally wear shoes of leather, and a great part of whose male inhabitants dress in boots, the consumption of that material is extravagant. By admitting hides and peltry free of impost, and laying heavy duties upon the introduction of tanned and rawed leather, Congress has given ample protection to the operations of preparing skins for use. But our domestic supplies go far beyond the demand for the feet and legs. Saddlery, harness, and books, are principally supplied from the same internal source, to the great extent of their several demands; and the like may be observed of the supplies for the wants of navigation and military equipments.

A prominent feature in the face of this performance is the number of stills employed in the preparation of ardent spirits. The quantity of ardent spirits annually distilled appears, by the returns, to equal the prodigious amount of twenty-three millions seven hundred and twenty thousand gallons. The extraction of brandy from peaches, of an alkoholic liquid from cider, and of whiskey from rye, and even maize, is carried to this alarming excess. These products of the distilleries are chiefly consumed among ourselves, though a portion of the

latter is converted to gin before it reaches the human stomach. While, therefore, we observe the increase of these home-made fluids, we must reflect on their inebriating effects. It cannot be disguised, that their intoxicating quality recommends them to such general employment. Nor ought it to be concealed, that in a country where a gallon of this maddening stimulus can be bought for half a dollar, a gill may be obtained at retail for three cents, and the seller, at the same time, more than double his money. The fondness for this bewitching beverage, and the repugnance to any excise upon it, raise in the mind a curious association between the free use of it and of political freedom. And it deserves the consideration of all the thinking part of society, how far disease, idleness, immorality, and other mischiefs incidental to strong potation, may not degrade freedom to rudeness and something worse.

A few other important objects disclosed by an examination of these papers, remain to be mentioned.

The number of water and horse-mills employed in spinning cotton, on this exhibition, amounted to 330, in the month of August, 1810, and working one hundred thousand spindles. These, on an average, will spin annually between four and five million pounds of yarn; and that yarn would be sufficient to weave eighteen millions of yards of cotton cloth, three quarters of a yard wide. And this is wholly independent of what may be spun in private families, although it makes part of what is wove there.

The fulling mills returned amount to 1630; and the wool-carding machines, going by water, to 1585.

The number of looms returned exceeds 330,000; and

the total number of yards of cloth made of wool, cotton and flax, as returned, exceeds seventy-five millions.

Gun powder mills are enumerated to the number of 207. Some of these are, indeed, small; but they count, and, in addition to the larger ones, they prepare yearly 1,450,000 pounds of gun-powder.

Five hundred and thirty furnaces, forges and bloomeries are enumerated.

The paper mills amount to 190.

I cannot forbear to express the wish, that these important papers may fall into the hands of some person who may have time and ability to derive from them more extensive information than I am able to give you. But, until this shall be done, the present communication may serve to afford some idea of the manner in which the marshals have executed their instructions, and of the facts which their returns contain.

Allow me to assure you, once more, of my great esteem and regard,

SAMUEL L. MITCHILL.

VII.

LETTER *relative to* STEAM BOATS, *addressed to the Editors, by* JOHN STEVENS, *Esq. of Hoboken, (N. J.)*

In the American Medical and Philosophical Register, for January, 1812, I find inserted, a communication denominated an "Historical Account of the application of Steam, for the propelling of Boats." "A new art," says this historian, "has sprung up among us, which promises to be attended with such important consequences, that

I doubt not, sir, you will with pleasure make your useful work record its introduction, that when in future years it becomes common, the names of the inventors may not be lost to posterity."

I must confess, sir, I feel some ambition to have my name too enrolled with those of other candidates for fame on this occasion. And in the distribution of honours, I hope, and trust, I shall not be entirely overlooked, but be able to make good my claims to some small portion of merit. In bringing forward and supporting the evidences of these claims, I shall be compelled to rectify the numerous incorrect and defective statements made by the "Friend of Science." I am, however, by the agreement subsisting between Messrs. Livingston and Fulton and myself, exempted from being actuated, on this occasion, by any motive of a pecuniary nature. After mentioning the unsuccessful attempts of Fitch and Rumsey, we are told, that "the next attempt was made by Chancellor Livingston," and that "not long after, John Stevens, Esq. of Hoboken, engaged in the same pursuit." This statement is incorrect in every part.

By a certificate of Mr. John Watts, who was then a member of the Legislature of this State, it appears that in February, 1789, he received from me, and laid before the house, a petition relative to a Steam Engine, to place on board a vessel. The ensuing year I presented to the Commissioners named in the act of Congress, for the promotion of useful arts, descriptions of various improvements of the Steam Engine, among others is the following:

"A mode of propelling a boat by steam, of which the following is a description.

"The cylinder lies horizontally in the bottom of the

boat, and near to each end of it, are attached vessels somewhat more capacious than the cylinder itself, nearly filled with water or oil. Into each of these vessels the steam from the boiler is alternately admitted, and propels the water or oil into each end of the cylinder, and by this means the piston is driven backwards and forwards by the action of the water or oil upon it. The piston being hollow, is made of the same specific gravity of the water or oil. The rod of the piston has a number of teeth which catch in the teeth of a small wheel, on the axis of which is fixed another large wheel, the teeth of which catch on each side into the teeth of two rods which pass through the stern of the boat, to the end of which rods floats are fixed which operate as paddles to propel the boat through the water."

The following is a copy of a letter addressed to Mr. Henry Remsen, then Secretary to Mr. Jefferson.

Hoboken, April 20th, 1791.

DEAR SIR,

Your polite attention, and readiness to serve me while last at Philadelphia, induces me to trouble you once more. As I am now actually engaged in constructing the different parts of the machinery of a Steam Engine, in order to make an experiment of my project for propelling a boat, I am under some solicitude respecting the event of my application for a patent. Whatever information, therefore, you can give me respecting this business, will be very acceptable.

I would wish also to hear what progress Messrs. Fitch and Rumsey have made towards an accommodation.

I am, Sir, with esteem,

Your very humble serv't.

JOHN STEVENS.

HENRY REMSEN, Jun. Esq.

In a letter dated September 6th, 1791, Mr. Remsen writes, "your patents are now ready for delivering;" among these was a patent for the above described "mode of propelling a boat by steam."

In the execution of this project I employed one Hall, an ingenious mechanic from England. But after expending a considerable sum of money, and nearly completing the engine, Hall became so confirmed a sot, as to be totally incapable of proceeding, and shortly after died. Unable at that time to find another person capable of conducting the business, I was compelled to abandon the project.

Thus then it appears, that I had turned my attention to steam boats in 1789. That in 1791 I actually obtained a patent for a steam boat, which, after having nearly completed, I was compelled to give up for want of a competent workman.

No less than seven years after this, viz. on the 27th March, 1798, Chancellor Livingston obtained an act of the Legislature of this State in his favour, for an exclusive right of propelling boats by steam, and, as stated by "A Friend to Science," a boat of about 30 tons was built, and a considerable sum of money expended in the experiment.

But this gentleman has omitted to mention, that in this business Mr. Stevens was jointly concerned with Chancellor Livingston and Mr. Nicholas Roosevelt. That after the "horizontal wheel" had been tried and abandoned, we made trial of eliptical paddles which I had made for the purpose. But owing to the defective construction of the machinery, we were never able to make a fair trial of these paddles.

The steam engine was constructed by two of our best engineers, Messrs. Stoudenger and Smalman.—Mr. Smalman had recently come out from England, where he had long been employed under Messrs. Watt and Bolton; the engine was of course constructed, in every respect, after their plan. But to our cost, we were soon apprized of a radical and fatal defect in principle, incident to Watt and Bolton's engines on the usual construction. The defect here alluded to, is stated and explained in the observations annexed to my patent, dated April, 1811, a copy of which is now subjoined.*

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* *Observations annexed to the specification.*

It may, perhaps, be necessary to subjoin a few observations, in order fully and justly to appreciate the great magnitude of the alternate pressure on the cylinder upwards and downwards at each stroke of the piston. Setting aside friction, the piston may be considered as working loosely in the cylinder. If, therefore, a vacuum be formed on one side of it, and an elastic fluid be introduced on the other, a partial pressure will take place against the exterior and interior surfaces of each end of the cylinder, the one end will have to sustain the pressure, whatever it may be, of this elastic fluid against its interior surface, counteracted by the pressure of the weight of the atmosphere on its exterior surface—the other end will have to sustain the pressure of the whole weight of the atmosphere on its exterior surface, without the counteraction of any pressure against the interior surface. Should, therefore, the pressure of this elastic fluid be less than that of the atmosphere, the difference will be the amount of the partial pressure. Should it be greater, the excess added to the pressure of the atmosphere, will constitute the whole partial pressure. We will suppose then, that the steam has an elasticity sufficient to raise a weight on the safety valve, equal to eight pounds on the circular inch, and the pressure of the atmosphere is estimated at twelve pounds on the circular inch. The whole partial pressure will then be alternately on every circular inch of each end of the cylinder equal to twenty pounds. On a cylinder then of thirty inches

As I have therein stated, " to avoid the mischievous effects necessarily resulting from the alternating stroke of the engine on the ordinary construction, I turned my at-

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diameter, making only fifteen double strokes per minute, there will be an alternate pressure upwards and downwards, and changing every two seconds, of no less than 18,000 pounds. No strength of timber in a boat, could withstand the enormous strains which such a pressure, charging too so frequently, would occasion.

The importance then, of adopting such an application of the power of the engine, as will tend to counteract this pressure, will *now* appear sufficiently evident. And it will at once be perceived, that the object is fully attained by the modifications of the machinery described in this, and in the patent I have lately taken out. In a few words, I will explain the modus operandi. When the piston is ascending, and the cylinder is pressed downwards, the connecting rods on each side pull upwards, and, vice versa, when the piston is descending, and the cylinder is pressed upwards, the connecting rods push downwards.

It may, however, be said, that this appears so plain and obvious, that it must readily occur to every engineer pretending to have any acquaintance with the steam engine, But the following detail of my own progress toward the establishment of the principle, will evince very clearly, that the subject does not really lie so near the surface as might *now* be very naturally supposed. Some years ago I was connected with Chancellor Livingston and Mr. N. Roosevelt, in an unsuccessful attempt to construct a steam boat; and although two of the ablest engineers then in the country were employed, both intimately acquainted with the construction of the steam engine, yet, so it was, that our ultimate failure was principally owing to the want of due precautions in the modification of the machinery, so as to counteract the effects of the alternate partial pressure on the top and bottom of the main cylinder. So great indeed was the vacillancy of the cylinder, that there was no possibility of preventing the disrupture of the connection pipes. To avoid these mischievous effects necessarily resulting from the alternating stroke of the engine on the ordinary construction, I turned my attention to the construction of steam engines on the rotary principle. It is not necessary to

tention to the construction of steam engines on the rotary principle." And the first steam boat put in motion on the waters of the Hudson, was one constructed on this principle. I trust, then, I shall be pardoned, should I enter into a more minute description of this little curiosity than may at this time appear necessary. For simplicity, lightness, and compactness, the engine far exceeded any I have yet seen. A cylinder of brass, about eight inches diameter, and four inches long, was placed horizontally on the bottom of the boat; and by the alternate pressure of the steam on two sliding wings, an axis passing through its centre was made to revolve. On one end of this axis, which passed through the stern of the boat, wings, like those on the arms of a wind mill, were fixed, adjusted to the most advantageous angle for operating on the water. This constituted the whole of the machinery. Working with the elasticity of the steam merely, no condenser, no air pump was necessary. And as there were no valves,

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go into any detail of my various experiments to accomplish this purpose. It is enough to say, that I was finally compelled to abandon the project, and resort again to the reciprocating engine. Actual experiment, as above stated, had taught me the indispensable necessity of guarding against the effects of partial pressure. And I constructed an engine, although differing much from those I have desribed, yet so modified as to embrace completely the principle above stated. I afterwards constructed another on similar principles, but varying very considerably the arrangement of the machinery. These were both on a small scale, and placed on board of small boats. I then built the boat now running on the Delaware, and put an engine in her, the construction of which illustrates the efficacy of the principle in a more palpable and striking manner than the one I now have on board. In so much, as the axis passed *under* the cylinder, it was so far similar to the one described in the above specification.

JOHN STEVENS.

New-York, April 10th, 1811.

no aparatus was required for opening and shutting them. This simple little steam engine was, in the summer of 1802, placed on board a flat-bottom boat I had built for the purpose. This boat was twenty-five feet long, and about five or six feet wide. She was occasionally kept going till the cold weather stopt us. When the engine was in the best order, her velocity was about four miles an hour. I found it, however, impracticable, on so contracted a scale, to preserve due tightness in the packing of the wings in the cylinder for any length of time. This defect determined me to resort again to the reciprocating engine. But the unsuccessful experiment in which I had, as above stated, been engaged in conjunction with Chancellor Livingston and Mr. Roosevelt, had taught me the indispensable necessity of guarding against the injurious effects of partial pressure. And accordingly I constructed an engine, although differing much from those described in the specifications of my patents, yet so modified, as to embrace completely the principle stated therein. During the winter, this small steam engine was set up in a shop I then occupied at the Manhattan works, and continued occasionally in operation till spring, when it was placed on board the above mentioned boat, and by means of bevel cog wheels, it worked the axis and wings above mentioned, and gave the boat somewhat more velocity than the rotary engine. But after having gone some time in crossing the river, with my son on board, the boiler, which was constructed of small tubes, inserted at each end into metal heads, gave way, so as to be incapable of reparation.*

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* In 1804 I had two cylinders cast at Mr. M'Queen's furnace, each of sixteen inches diameter. These were bored at a boring machine

Since that time I have made a variety of unsuccessful experiments with boilers of different constructions, and at length contrived the boiler now on board the Phœnix, for which I obtained a patent, dated January, 1810. In the boiler put last season on board the Juliana ferry boat, I have improved upon the one in the Phœnix. The furnace, as well as the flue, is suspended on a frame work of cast iron, which renders the boat perfectly safe from all danger of fire, and supercedes the necessity of an enormous mass of brick-work. By inserting two flues in the cylinder in the place of one, a very considerable weight of water is saved, and a greater surface of metal in the same compass is exposed to the action of the fire. Its cylindrical form renders its construction easy and cheap, and at the same time, gives it a superiority over every other in withstanding pressure. Possessed of all these advantages, I may presume to adopt the words of the "Friend to Science," when he says, that this boiler "promises to be a useful improvement on engines designed for boats." But I am sorry this gentleman has preserved a profound silence in respect of another improvement, which I consider as infinitely more important than the one he has been pleased to notice in terms of appro-

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put up for that purpose at Hoboken. One of these I determined to put on board a boat, to ply as a ferry boat, and had nearly concluded a contract with a ship carpenter, for building a boat eighty feet long and twelve feet wide. But considering his terms extravagant, I broke off with him. The engine, when finished, was put on board of one of the ferry boats. But owing principally to the defects of the boiler and furnace, she did not answer my expectations. The two cylinders were afterwards put on board the Phœnix, and after taking her round by sea into the Delaware, were removed, and the present engine put on board.

bation, inasmuch as it is indispensably necessary to a steam engine, with an alternate change of motion in the piston, when placed on board a boat. This improvement, as above stated, was first carried into effect in the winter of 1802, and consists in modifying and constructing the machinery in such manner as that "the power of the engine be communicated to the water wheels without causing any strains whatever to any part of the boat." (See patent, dated January, 1810.) "Whatever modification may be adopted, it is essentially necessary, in order to carry the principle fully into effect, that the cylinder be firmly and immovably connected with the support of the axis of the cog wheels on each side of the cylinder, in which the shackle pins are fixed, or with the support of whatever other means or contrivances, that may be used for communicating motion from the piston, to the operative movements of the engine." (See patent, dated April, 1811.)

I am still more sorry for the silence of the "Friend of Science," on the subject of this improvement, as Mr. Fulton, in the construction of the machinery of the Paragon, has, (certainly with great propriety,) adopted, not merely the principle, but the precise mode also, by which I have carried this principle into effect, on board the Phœnix and Juliana.

But, independently of the main object of this improvement, Mr. Fulton has, by its adoption, acquired other advantages, which, though comparatively of minor importance, are by no means inconsiderable. The weight and volume of the machinery has thereby been very much diminished.

But "Mr. Stevens has, since the introduction of Messrs. Livingston and Fulton's boat, adopted their

principles, and built two boats that are propelled by wheels."

What is meant here, by adopting Messrs. Livingston and Fulton's principles, I cannot even conjecture. The whole of my machinery and boiler I claim as my own invention, and have accordingly taken out patents for these, as I conceive, important improvements, embracing a great variety of objects, which it would be tedious and unnecessary to enumerate here. Those who wish more minute information on the subject, I beg leave to refer to my patents, specifications, drawings, and descriptions, filed in the patent office.*

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* Besides the improvements above mentioned, I will add, among a number of others, the following:

1. The cylinder, condenser, and air-pump, are all firmly bedded upon a single plate of cast-iron, and the power of the engine exerted without causing any strains whatever to any part of the boat.

2. An improvement is made in the construction of the air-pump, not merely by giving it a double stroke, but by causing the piston to pump out the injection water from the bottom of the condenser, when the piston rises, and by exhausting the air separately from the water from the top of the same, when the piston descends.

3. A new kind of parallel motion for preserving the vertical position of the piston rod of the air pump.

4. A new mode of fixing the valve seats with firmness and accuracy.

5. Valves with perforated stems passing through from the upper seat downwards, and from the lower seat upwards.

6. The levers for opening and shutting the valves are worked by a rotary motion, instead of the alternate rectilinear motion of the common plug frame, the working gear of which is very liable to get out of order.

7. By making the guide-posts triangular, a great increase of strength and firmness is given to them.

8. By means of a cylinder placed above, between the two main

It is very true, that I now make use of water wheels on each side the boat. It is surely very far from my intention, to make any attempt to invalidate Mr. Fulton's claim to water wheels thus applied. It is an unquestionable fact, that he was the first person who, for any practical useful purpose, applied water wheels on each side of a steam boat.

It may not be amiss to mention, that in the year 1807, when the north river steam boat made her first appearance on the waters of the Hudson, I constructed an engine and boat on a very small scale, viz. fifteen feet long, and four and an half feet wide. To this boat, considering her size, I gave a most astonishing velocity. At times not less than six miles an hour. To be sure, she had water wheels on each side. But that this extraordinary velocity was not altogether owing to this circumstance, is evident from the fact of her going, notwithstanding every disadvantage, much faster than the north river steam boat. Mr. Fulton has, however, incontestably the merit of being the first person who applied steamboats to useful purposes. And when we take into consideration the progress this art, as yet in its infancy, has already made, our anticipations of its future advancements toward maturity, must be flattering indeed.—When too, we consider the wide extent of the navigable waters of these states, how gratifying to our patriotic

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cylinders of which the boiler is formed, a supply of water is furnished to the boiler whenever it is necessary to stop the engine. This contrivance, if the stop is not very long, prevents the safety valve from rising, and making a disagreeable noise, and thus too prevents the loss of heat and steam, and while the engine is going, it furnishes more steam-room to the boiler.

feelings must be the thought, that the United States is destined to be the theatre where this endemic art will, at some future day, be exhibited with unrivalled splendor.

I am not insensible of the trespass I have committed on the time and patience of your readers, by the prolixity and minuteness of detail in this communication.—The unavoidable egotism too, which prevails throughout, may subject me to the imputation of vanity. For these errors, I hope and trust, it will be a sufficient apology, when I say, that I have been involuntarily dragged into them, by what I conceived to be an imperative duty I owed to the public as well as to myself. To the public, that on a subject so important, the most correct information should be laid before them: to myself, that the evidences of what I considered just claims to merit, in the application of steam to propelling of boats, should be brought forward, and supported to the utmost of my power.

It may not be amiss to state, that I have lately made an arrangement with the proprietors of the union line of Philadelphia, New Castle, and Baltimore packets, for running steam boats on said line, in the Delaware and Chesapeake. By this arrangement, said proprietors are vested with the exclusive right and privilege of running steam boats on the Delaware, below Philadelphia, and on the Chesapeake to Baltimore, under the patents of John Stevens and Robert Fulton.

A line of steam boat conveyance will now be established, with only about forty miles of land carriage, between the cities of Albany, New-York, Philadelphia, and Baltimore, a distance of three hundred and fifty miles.

A steam boat, not of the most improved construction, has for two seasons navigated Lake Champlain. But a

company is now formed, to build one for this navigation, on a larger and more approved plan. I am also informed, that a gentleman at Montreal, has lately imported a steam engine from England, and purposes placing it on board a boat, to navigate on the St. Lawrence, between Montreal and Quebec. When this is effected, a steam boat conveyance will be established from Quebec to Baltimore, a distance of seven hundred and fifty miles, with little more than one hundred miles land carriage.

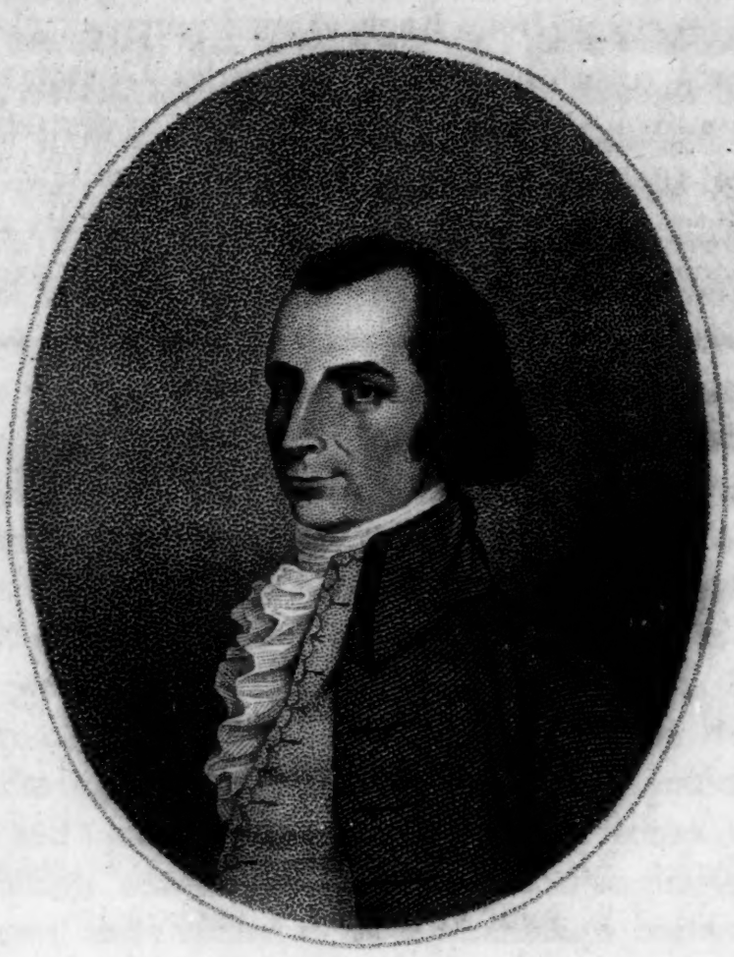
VIII.

Biographical Sketch *of the late* Dr. Charles M'Knight, *A. M. of New-York. Communicated by a Correspondent.*

(With an engraving, by Leney.)

Dr. Charles M'Knight, the subject of the present memoir, was born on the 10th of October, 1750, at Cranberry, Monmouth county, New-Jersey. His father, Mr. Charles M'Knight, was a native of Ireland, and son of the Rev. John M'Knight, a dissenting minister of respectability in that country.

About the year 1746, Mr. M'Knight, thinking that the new continent afforded a better field for the exertion of those talents which nature had bestowed upon him, departed from his native country for America, and took up his residence in New-Jersey. Shortly after his arrival he was called, by the unanimous request of a respectable congregation, to the ministry of the gospel. Although not educated for a clergyman, he appears to have been strongly disposed to a religious life, as being the one in which he could live with greatest satisfaction to himself



Dr. Chas. Mc. Knight.

and benefit to society. Nor did his inclinations mislead him, for he closed his useful labours as much lamented as he lived respected.

Charles, his eldest son, at an early age, gave evidence of superior talents, and after having passed through his preparatory studies with much credit, was admitted a student in the College at Princeton, and received the degree of A. B. in 1771. He now commenced the study of medicine under the direction of the late Dr. Shippen of Philadelphia. Before, however, he had qualified himself for the exercise of his profession, the revolutionary war in America took place, and young M'Knight, with a number of medical gentlemen, entered the army, considering that the place best calculated to enlarge his practical knowledge. Here his abilities soon attracted the attention of the commander in chief, and he was in a short time promoted to the rank of senior surgeon of the flying hospital in the middle department. In the discharge of the important and arduous duties of his station, his talents and indefatigable zeal were equally conspicuous. Although surrounded by the most discouraging circumstances, and exposed to all the hardships necessarily connected with that department of the American army, he was pre-eminently conspicuous for the performance of all those duties, which the peculiar situation of his country required, and his humane disposition led him to undertake.

At the conclusion of the war, he removed to New-York, and married Mrs. Litchfield, only daughter of the Hon. John M. Scott. Our city could not, at that time, boast of the medical school it now has, or his talents would undoubtedly have procured for him the professorship of anatomy and surgery. He, however, delivered

lectures on these two branches of medical science, to a numerous and attentive class of scholars, while the profundity of his research, and the acuteness of his genius, gained for him the approbation even of the most fastidious. In a life of constant activity, both as a practitioner and a teacher, he continued until he had arrived at his 41st year, when a pulmonic affection put a period to his labours and usefulness.

Dr. M'Knight, though eminent as a physician, was particularly distinguished as a practical surgeon, and, excepting the late Dr. Richard Bayley, of this city, was without a rival in this branch of his profession.—Gifted by nature, with talents peculiarly calculated for the exercise of the important duties of a surgeon, his education, in an especial manner, enabled him to attain the highest reputation. The only production of Dr. M'Knight which is published, is an interesting account of a Case of Extra-uterine Fœtus, in the Memoirs of the Medical Society of London, vol. iv.

REVIEW.

ART. I. *A* VIEW *of the* DISEASES *most prevalent in the* UNITED STATES OF AMERICA, *at different seasons of the year; with an Account of the most improved method of treating them. Being an Abstract, not only of the Editor's own experience, but of the experience of several Physicians of distinguished abilities residing in the different States; including the substance of all the latest and most important improvements that have been made in the treatment of similar diseases in other countries. Collected and arranged by* WILLIAM CURRIE, *Fellow of the College of Physicians of Philadelphia, Member of the American Philosophical Society, Physician to the Magdalen Asylum, &c.* Philadelphia, J. and A. Y. Humphreys. 8vo. pp. 240. 1811.

THIS comprehensive title page sufficiently explains the nature and objects of the work now before us, and had the several subjects which it embraces, been executed in an equally satisfactory manner, a most important service would have been rendered the profession. But to have expected the completion of so great a work, from the exertions of a single individual, could not but be attended with some disappointment, and accordingly, though we see room for improvement in the present volume, we are far more disposed to be contented with what the author has already done, than to enter into an examination of the imperfections that might be pointed out.

Dr. Currie was, indeed, well qualified for the task he has undertaken, having been a distinguished practitioner

in this, his native country, upwards of thirty years. The frequent opportunities which he thus enjoyed, among different descriptions of persons, of observing the various character of disease, and the relative success of different methods of treatment; of comparing the results of his own experience with those of his fellow practitioners; have justly led him to believe, that a publication of the information derived from such sources, would be acceptable to physicians in general, and to the junior and less experienced members of the profession in particular, and especially to those who are precluded from ready access to public libraries.

"I have been induced by these considerations," says Dr. Currie, in his prefatory remarks, "to publish the following abstract of the information which I have acquired relative to the history and treatment of the diseases that are most prevalent in this country at different seasons of the year, together with the substance of all the latest and most important improvements that have been made in the treatment of similar disorders in other countries. And as I can, with truth, assure the reader, that I have neither proposed nor directed any remedy or method of treatment, that has not been repeatedly confirmed by my own experience, or by the experience of those 'who make truth their aim, the public good their end,' I can recommend the adoption of a similar method of treatment to others from a conviction that they will find it, as I have done, more efficacious than any other method that has hitherto been made public." p. 6.

In a suitable introduction, Dr. C. enumerates the diseases of most frequent occurrence in the United States, and as he adopts the systematic arrangement of Dr. Cullen, first treats of intermittent fever. On this subject, he

has added an interesting body of facts relative to the effects of certain preparations of arsenic in this disease, a part of which was communicated to the editors, and appeared in a former number of this work.* He next treats of the autumnal remittent or bilious fever, after which a subject of far greater importance, and one which has been long agitated, is taken into consideration, we mean the yellow fever, denominated in the several performances of Dr. Currie, the synochus icteroides. This division of the work is executed with superior ability. The author has had very many opportunities of seeing the disease during the several times it has appeared as an epidemic in Philadelphia and in other places, and from the constant habit which he pursued, of daily noticing the various phenomena which accompany this disorder, has been liberally supplied with facts, valuable for the important principles they establish, and the practical conclusions that may be deduced therefrom. These facts are communicated in a perspicuous and energetic style, and are directly in support of the foreign origin and contagious nature of the yellow fever.

In the treatment of this disease, the practical cautions of Dr. Currie, with respect to venesection, deserve to be regarded. The same may be said of his remarks on cathartic medicines, and of the several means employed to mitigate or remove the distressing affection of the stomach, which is always more or less the attendant on yellow fever. In cases of black vomiting, nothing so frequently has relieved this dreadful symptom, as a mixture of equal parts of lime water and new milk. This fact, of so much practical importance, is fully substantiated by

* Register, for July, 1811, p. 26.

the experience of Drs. Currie, Vaughan, and Bard, and by that of Dr. David Hosack, by whom this remedy was first employed for this purpose.

Dr. Currie next enters upon the consideration of those diseases which belong to the order phlegmasiæ, and first treats of phrenitis. The next disease in his arrangement is hydrocephalitis, or hydrocephalus internus. Dr. C. adopts the former name, because, in his opinion, it conveys a more correct idea of the nature of the disease, while it retains its original nature, form, and character.—After an ample description of hydrocephalitis, and an enumeration of its principal causes, follows the method of treatment recommended by our author. The means to arrest the progress of this disease, it is justly remarked, ought assiduously to be had recourse to in its early stage. According to Dr. C. one of the temporal arteries should be opened, or if this operation should not be submitted to, blood should be drawn from the arm till symptoms of fainting be induced. Calomel should then be administered, so as to relieve the bowels, and when this effect is produced, if symptoms of fever and congestion still exist, the bleeding must be immediately repeated; a large blister applied over the whole head, and one to both wrists or ankles; if stupor has increased, sinapisms to the feet and the calomel must be renewed as at first. In certain cases, as pointed out by Dr. C. cupping glasses or leeches may be substituted. When, however, a change in the character of the disease is induced, and a dropsy in the ventricles has taken place, a corresponding change in the nature and form of the remedies is to be made. From the preceding congested and distended state of the arteries, a greater quantity of watery fluid escapes into the ventricles than the absorbents are capa-

ble of taking up: from which cause arise the symptoms characteristic of this stage of the complaint. Fresh blisters are now to be applied to the head and limbs, unless those which had been applied in the former stage, still continue to be considerably inflamed. The antiphlogistic regimen, though not with the same strictness, is also to be continued. Digitalis is to be administered at stated intervals, and small doses of calomel given, and continued until a swelling of the gums and soreness of the inside of the cheeks, or a salivation makes its appearance, or some other symptoms indicate the operation of mercury upon the system. Dr. C. remarks,

"Mercury should never be given in large quantities or at short intervals in this disease, as for want of observing this precaution, I have known it, instead of occasioning salivation, to bring on an inflammation of one of the cheeks, or of the jaw of one side of the face, which in spite of all the usual preventives, ended in a mortification, which either speedily deprived the patient of his life, or if he recovered, left him a deformed and shocking spectacle the remainder of his days." p. 99.

Little is said either of the nature or treatment of cynanche tonsillaris; of the next disease, however, which is noticed, cynanche trachealis, generally known in this country by the name of hives, we are presented with an excellent description of its symptoms, of the causes by which it is produced, and with some practical observations on its peculiar nature. The method of cure laid down by Dr. C. chiefly comprehends copious and repeated bleeding, followed by active emetics and blisters, these to be succeeded by small doses of calomel. In the more advanced stage of the complaint, recourse is to be had to the rad. polyg. seneka, as a remedy of superior efficacy, and as an useful auxiliary to the mercury:

"but from its irritating quality and effect in exciting cough, it is highly improper to administer it in the early or inflammatory period of the disease, as it increases the flow of blood to the inflamed trachea." Dr. C.'s observations on this remedy, are certainly very judicious, and, with one exception to the method of cure, enforced by him, we give our fullest consent. The copious and repeated use of blood letting, first employed by Dr. Bayley of this city, though sanctioned by the experience of several eminent writers beside Dr. C. does not appear to be necessary in the treatment of this disease, and many cases have come to our knowledge were this practice has been attended with serious evils to the constitution. Let more dependance be placed on the liberal employment of emetics and calomel, less upon bleeding ad deliquium, and we confidently believe, that the pernicious effects arising from the present method of cure in this disease will, comparatively speaking, be rarely met with. We cannot, however, but consider this portion of Dr. Currie's work as worthy of particular notice, and recommend it as deserving of general attention.

The diseases next in order noticed by Dr. Currie, are peripneumony, pleurisy, pneumonia notha, gastritis, enteritis, hepatitis, rheumatism, gout, erysipelas, epistaxis, hæmoptysis, phthisis pulmonalis, catarrh, influenza, dysentery, and cholera infantum. Of these diseases, those treated of at greatest length, are phthisis pulmonalis, influenza, dysentery, and cholera infantum. The section on consumption, in addition to the author's own experience, is enriched with much practical matter from several of the latest authors on that subject. Under the head of influenza, we are furnished with a brief but interesting notice of the disease as it has prevailed in dif-

ferent districts of country, and at different periods; besides, an account of the disorder as it appeared in Philadelphia, in the summer of 1807, a year remarkable for the general prevalence of this disease. The symptoms and causes of dysentery are so well known, as to render it altogether useless to enter into any details of this kind, on the present occasion. As there is, however, a remarkable diversity of opinion with regard to the best method of treating the complaint, we insert the method pursued by Dr. C. as given in his own words.

"Not trusting to the fallacious indications afforded by the symptoms, I shall offer the result of my own experience, and the observations of those who have been most conversant with this disease.

For the purpose of proceeding with regularity, I shall distinguish the dysentery into three states, viz.

1st. When the disease is recent, and the sick can easily bear evacuations.

2d. When the disease is accompanied with violent and distressing symptoms, or has continued long, and has greatly impaired the strength, inflamed the intestines, and brought on a hectic fever; and,

3d. When the patient is prevented from recovering by the continuance of a tenesmus, or some other remains of the disease, or becomes subject to frequent returns of a diarrhœa, from the weakness and morbid sensibility of his bowels.

As there is always more or less inflammation of the mucous membrane or villous coat of the intestines in the early or recent state of this disease, similar to that which occurs in the bronchia in catarrh, blood-letting, in the generality of cases, is an indispensable remedy. In regulating the quantity and repetition of this remedy, however, the pulse, as in cases of enteritis, is a very uncertain guide; for in both diseases it is generally small and low; and when sickness at stomach accompanies the disease, it generally appears soft and weak also. But very acute, and frequent griping and pain in the abdomen, previous to and during every evacuation, accompanied with painful tenesmus, are signals for the employment and repetition of this remedy. While these continue with severity, blood-letting should be repeated to the quantity of ten or twelve ounces, and in

cases of greater violence, in much larger quantity once in six or eight hours, till a manifest abatement of the local pain and distress is procured.

In conjunction with blood-letting, a full dose of any of the common purging salts, with the addition of one fourth or one half of a grain of tartarized antimony, should be administered soon after the first bleeding, and the fourth of a full dose every four hours after, with the addition of a fourth or sixth part of a grain of emetic tartar to each dose, till the fixed pain is removed, and more copious and natural stools are procured.

Fomentations of warm water to the abdomen and legs also contribute to mitigate the pain and fever in the early stage of the disease. Where they fail, and especially if the blood drawn on the second or third time of bleeding shows a sizy surface, or firm cohesion of the crassamentum, a large blister applied to the abdomen, and one to the inside of each leg, seldom fail of affording the most sensible relief—and more especially if preceded by topical bleeding, by means of leeches or cupping glasses. To prevent a return of those symptoms, however, free evacuations must be continued daily from the bowels by means of mild purgatives, particularly by castor oil given in half-ounce doses once in three or four hours, mixed with any thing agreeable, that is of a mild nature, the patient making use of acidulated drinks and the antiphlogistic regimen at the same time, and carefully abstaining from opiates till the acuteness of the griping and inflammatory symptoms have been completely subdued; after which, if the tenesmus continues (which in consequence of the abrasion of the rectum is generally the case) opiates are not only safe but highly beneficial, and particularly when administered in mucilaginous injections.

When the disease does not yield to these remedies, but the griping and tenesmus continue stationary, or return soon after they have been considerably mitigated, there is reason to suppose they are occasioned by the retention of scybala or indurated excrements in the colon. In such cases the remedy in which Sir John Pringle placed most reliance, was five grains of calomel combined with thirty grains of rhubarb, which in ordinary constitutions he says, is a moderate, or rather, a small dose. This combination, he adds, renders the rhubarb milder in its operation, (p. 263—edition 7th.) This is confirmed by Dr. Richter in his Medical and Chirurgical Observations, published at Goettingen in 1793, who affirms that no purgative operates so

powerfully and at the same time so gently, as calomel. In such circumstances, I have frequently prescribed six grains of calomel and two of opium at bed time, with the most decided success. The opium lulling the pain, while the calomel usually occasions a free evacuation next morning.

Clysters of linseed tea, a solution of gum in water, thin starch and olive oil, are generally employed for the purpose of mitigating pain; but as long as the inflammation of the intestines continues, they generally add to the torment, unless when administered cool—and when the tenesmus is urgent, I have generally found them come away immediately, and this distressing symptom increased by the attempt to administer them, owing to the irritation which they occasion, even in the smallest quantity.

Under these circumstances, therefore, and especially in the second stage when the strength daily declines and the fever continues with dry skin, parched tongue, and frequent ineffectual efforts to evacuate the fæces, several of the most experienced writers recommend purgatives, combined with opiates, and of these Dr. Clark, in his Observations on Diseases of Long Voyages, gives the preference to a combination of calomel and opium, in the proportion of from three to five grains of the former to two of the latter, which he directs to be taken every four hours till they occasion a slight salivation or tenderness of the gums. As soon as this is obtained, he asserts that the griping and tenesmus both subside; and observes, that from twenty to thirty grains given in this manner, generally have a sensible effect on the mouth, though he has sometimes met with cases which required more than a drachm. When this remedy does not also operate as a cathartic, he interposes a saline purgative occasionally to carry off the indurated acid corrupt humours from the intestines. It is true, Dr. Clark employed calomel and opium in every stage and under all circumstances of the disease, but the event of several of the cases which he has recorded, by no means confirms the propriety of this indiscriminate and empirical practice. The cases recorded by Drs. Yates and M'Lean, in a publication entitled the Science of Life, afford ample proof that so long as the acute pain and fever denote the presence of inflammation of the mucous membrane of the intestines, the free use of mercury combined with opium is highly pernicious." p. 213—216.

" Many physicians in this country employ mercury in small and repeated doses, in the early stage of violent cases of the dysentery, for the purpose of inducing salivation. In this way I have seldom observed it to succeed, but on the contrary have several times seen fatal effects result from this practice. This might be expected from the almost invariable effects produced by mercury. In the interval between its first administration and its affecting the gums, its stimulating power is felt in a quickened circulation, and often in feverish heats. Hence in the early and inflammatory stage of dysentery, calomel ought never to be employed for the purpose of salivating—but in protracted cases, when the local and general excitement are moderate, its stimulating effects may be in a great measure counteracted by the effects of opium ; and when in such circumstances it is pushed so far as to affect the gums, the disease of the bowels is generally suspended.

In some cases, ulceration of the tonsils has been occasioned by mercury, which has terminated in sphacelus and a speedy death ; in others, the tormina of the bowels have been rendered insupportable, and the inflammation converted into sphacelus.—But, according to my experience in protracted cases, the practice of giving small doses of calomel and opium in conjunction, every three or four hours, till its effects on the mouth are evident, is not only safe, but frequently successful. The best anodyne is a combination of from half a grain to two grains and a half of opium, with from twenty to thirty of Dover's powder, or the compound powder of ipecacuanha, followed by a cup of warm tea, made of hyson, chamomile, or sage, every half hour for three hours, or till a copious perspiration follows. Calomel, given in this manner, operates as a mild and effectual laxative ; while the opium combined with the ipecacuanha or neutral salt, not only eases the pain but promotes perspiration, and thereby acts in reducing the inflammation of the internal surface of the intestines, on which I believe all the symptoms depend.

A flannel roller or bandage round the abdomen, has lately been highly recommended by several physicians who have practised in hot climates in every stage of the dysentery, particularly by Drs. White and Dewar.

In the East Indies, Dr. Wade gave a dose of calomel every night, and a saline purgative the following morning, till the disease gave way, and assures us that this treatment generally succeeded.

When the dysentery continues till the strength is much impaired and the pulse sinks while the hectic heats continue, great danger is to be apprehended; but so long as there are neither involuntary stools, nor apthæ, nor hiccup, the case is not entirely hopeless. Under these circumstances, decoctions of cortex and serpentaria, or of columbo root, with from five to fifteen drops of laudanum, more or less, according to the degree of violence of the griping and pain, in a draught of cretaceous julep once in three or four hours, with vinous and cordial aliment, in a liquid form, and particularly wine whey, are the articles from whence most benefit has been obtained.

But when the patient has involuntary stools, apthæ and hiccup, accompanied with great prostration of strength and oppression at the præcordia, the case is desperate, and scarcely admits of palliatives.

In the chronic state of the dysentery, dependance is to be placed upon an alterative course of mercury guarded from occasioning debilitating evacuations, the frequent use of the hot bath, a flannel under dress, and a tight flannel roller round the bowels; or when that does not succeed, a successive application of epispastics to the abdomen, with tonic infusions, or absorbent mixtures, rendered agreeable by cinnamon or nutmeg water, and five or six drops of laudanum once in four hours, continued day and night, and a diet composed chiefly of light animal substances in the form of jellies, broths, or infusion; rice water, arrow root boiled to a thin jelly, and rendered cordial with wine and nutmeg, or brandy and nutmeg; milk with the addition of a small portion of lime water, or with chalk, gum arabic, and a little cinnamon, mace, or pimento boiled in it.

The following infusion is one of the best tonics and astringents for the diarrhœa, which sometimes succeeds the dysentery, viz.

Take Rad. columb. in pulvere crasso, half oz.
Pulv. gallæ. alep. sem. cardamom. ana, two drachms.
Spir. vin. com. (proof brandy) lbj.

To remain some days in infusion—then to be strained, and from two tea-spoonfuls to a table spoonful, to be taken diluted with water, three or four times a day." p. 219—221.

The limits of our review prevent us from entering into a consideration of the important subject with which the volume before us is concluded: we, therefore, refer the reader to the work itself, for the author's excellent view

of cholera infantum, and of cholera in its protracted state; diseases which, according to their mortality in Philadelphia, New-York, Baltimore, and Charleston, are confidently stated by our author to destroy more children "than all the other diseases to which they are subject in this variable and unsteady climate."

ART. II. *A Treatise on a Malignant Epidemic commonly called* SPOTTED FEVER; *interspersed with remarks on Fever in general, &c. and an Appendix, in which is republished a number of Essays, written by different authors, on this Epidemic, with the addition of original notes: containing also a few original and selected cases with clinical remarks. By* ELISHA NORTH. New-York, T. and J. Swords. 12mo. pp. 249. 1811.

THIS is a very respectable work, and by far the largest that has yet been published on the spotted fever. The author appears to have been very diligent in collecting his materials, has evinced considerable discrimination in the selection, and has put together a body of information, which, independent of its present usefulness, well deserves a place in a permanent book of reference. But to the merits of a judicious compiler, Dr. North justly lays claim to the character of an original observer, and the facts and observations which he himself has related of this disease, which still prevails in different parts of the eastern states, are among the most valuable portions of his interesting book.

ART. III. *Collections of the* NEW-YORK HISTORICAL SOCIETY, *for the year* 1809. New-York. I. Riley. 1811. vol. 1. 8vo. pp. 428.

To offer any general remarks upon the utility of historical knowledge, or to descant upon the numerous advantages which will result to our country from the publication of a work of the nature of that before us, were alike superfluous. The former of these points has long since been agreed to, by the experience of the most enlightened nations; and, with regard to the latter, the honourable example of the historical society of Massachusetts may be mentioned, as affording the most satisfactory evidence. The society of Massachusetts was established in 1791, and through the spirited exertions of its members, has already completed the publication of ten volumes, which contain much interesting information relative to the history of the United States, and particularly of that portion commonly called New-England. These laudable and successful efforts of our eastern brethren, have encouraged a number of gentlemen, in a different district of the union, to organize a similar institution. An association for this purpose was accordingly formed in this city in 1804, and an act of incorporation granted by the state, for the "New-York Historical Society;" the object of which, it is stated in the charter, shall be to discover and preserve whatever may relate to the natural, civil, literary, and ecclesiastical history of the United States, and of this state in particular. Since that late period, the society have issued this, the first volume of their collections.

The present work, as might easily have been anticipated from its very nature, is to be regarded chiefly as a compilation; but it is a compilation which includes a variety of curious and important information. The introductory part, besides the preface, contains the constitution of the society, its by-laws, an address to the public, in which are set forth, with minuteness and perspicuity, the particular objects of the institution, and the act of its incorporation. The next portion commences with a discourse, in commemoration of the discovery of New-York by Henry Hudson. This discourse was delivered before the society by the Rev. Dr. Samuel Miller, on the 4th of September, 1809, being the completion of the second century since that event. The author, besides presenting an account of the labours of the enterprising Hudson, as far as they were connected with the particular object he had in view, has given additional interest to his performance, by the facts and observations he has offered concerning the journal of Verrazzano. How far Verrazzano may be justly considered the discoverer of the harbour of New-York, Dr. Miller does not absolutely undertake to say, but appears to coincide in opinion with Dr. Belknap, that his description must have applied to that place. The original Journal of Verrazzano, as written in 1524, and published in the second volume of Hakluyt, is very properly inserted in these collections, in order that the reader who takes an interest in the inquiry may examine and judge for himself. It is impossible for us to investigate this subject on the present occasion, and we think it proper to withhold our opinion. Of the discourse itself, however, as a species of composition, we do not hesitate to pronounce it an excellent model of historical narrative; that in its contents it is extremely interesting; and

that it will be found in every respect worthy of the high reputation and acknowledged abilities of the author. Two instructive letters from Dr. Mitchill, in the form of an appendix to the preceding discourse, are next given. They happily illustrate certain facts contained in the Journal of Hudson.

The whole remaining part of the volume, comprising nearly four hundred pages, is occupied by documents taken from the very rare and valuable works of Purchas, Hakluyt, Hazard, &c. They are for the most part arranged in chronological order, and very properly printed *literally*, and in the quaint style in which they were originally composed. From their nature it is impossible to give an abstract of them : they will be read by the admirers of "olden times," and justly estimated by the American historian. The following is an enumeration of their general heads :

The relation of John De Verrazzano, of the land by him discovered, in the name of his majestie, Francis the First, anno 1524. The voyage of Henry Hudson towards the north pole, anno 1607. A second voyage of Henry Hudson, for finding a passage to the East-Indies by the north east, anno 1608. The third voyage of Henry Hudson towards Nova Zembla, &c. and along the coast to forty-two and a half degrees, and up the river (the Hudson) to forty-two degrees, anno 1609. An abstract of the Journal of Henry Hudson, for the discovery of the north-west passage, begun in April, in the year 1610, and ending with his death. Documents, extracted from the second volume of Hazard's Collection. Laws established by James, Duke of York, for the government of New-York, in the year 1664. We shall close our notice of the present work with some extracts from the preface.

"The first navigators who directed their course across the Atlantic, were incited by curiosity to remark, and by the hope of renown to record, every circumstance and incident attending their first visit to the unknown coasts, and unexplored bays and rivers of America.

"On their return to the countries from which they had sailed, their journals were sought for with eagerness, and the press was employed to preserve and diffuse the account of their discoveries. The journal of Henry Hudson, "who in the first ship, broke the unknown wave" of our wide circling bay and majestic river, has in this manner been fortunately preserved; and although not so minutely descriptive as our curiosity leads us to expect, yet is nevertheless sufficiently interesting to attract our attention, and certainly deserves to be perpetuated. The collection of voyages by Purchas, published in the year 1625, and which is still extant, contains this journal; but as these volumes are very rare, and as the surest way to preserve a record is to multiply copies, the present opportunity is taken to exhibit it to the public in a new form, more convenient than the original edition.

"As nothing appears to be known of the life and character of Hudson, but what is to be found in the history of his voyages, it cannot prove uninteresting to those who inhabit the borders of the noble river which bears his name, to read the brief memorials which remain of the enterprising spirit of this distinguished navigator, and of the calamities which terminated his adventurous career. With this view, the journals of his two last voyages, previous to his discovery of New-York, and of his last expedition, in which he fell a victim to the disaffection and barbarity of his crew, are allotted a conspicuous place in the present collection."

"The circumstances attending the first settlement of the United States, are, with some exceptions, as correctly to be ascertained as those of the original discovery. The leaders of the first adventurers who emigrated to these shores, being men of intelligence and foresight, and contemplating not merely a temporary refuge, but the establishment of permanent colonies or states; were desirous of transmitting to their successors, and to posterity, some memorial of their civil transactions. In most of the principal states, such records are to be found, and furnish the historian with much minute and local information. It is to be regretted, however, that with respect to New-York, from its first settlement by the Dutch in 1614 until 1636, there are scarcely any records remaining relative to the public affairs of the community. The English settlers on Connecticut river, were regarded, it appears, by the Dutch, as encroaching upon their territory, and in the year 1638 a prohibition was issued by William Kieft, the second Dutch governor, forbidding the English to trade at the Dutch posts established on that river. This, it seems, gave rise to a sharp controversy; and the publication of the documents, commencing with the protest of Kieft, and concluding with the articles of agreement relative to the partition line, will not, probably, prove unacceptable to the curious mind."

"In a few years afterwards, however, the Dutch ceased to be a party in this contention, being compelled by conquest to resign their territory to the dominion of Great Britain. A new system of government was then introduced by the authority of the Duke of York, to whom King Charles II. had made a grant of the colony, and a new body of laws was thereupon compiled under the direction of Nicolls, the first English governor. This code,

it appears, was promulgated in every county, under the name of the "Duke's Laws," a copy of which, transcribed from the records of Hempstead, on Long-Island, will be found at the close of the present publication. These laws continued in force till the period of the revolution in England, and ceased to have effect in the year 1691, when the general assembly of the province began to exercise a new legislative power under the sovereignty of King William."

DOMESTIC INTELLIGENCE.

Extract of a letter from John Ferriar, M. D. &c. of Manchester, addressed to David Hosack, M. D. of New-York, dated Manchester, Nov. 20, 1811.

" Sir,

" I beg leave to return you my best thanks for the interesting publications with which you have favoured me. They are particularly acceptable, because they show that the fatal delusions respecting the causes of the yellow fever are at length removed; and that rational precautions against its recurrence may now be expected, in place of that wild sciolism, which had grieved and astonished European practitioners. It has always been my opinion, since I perused the reports of the Philadelphia committee, that the whole evils of the epidemic might have been averted, by the establishment of permanent fever-wards, in the principal seaports of America. I sent a letter on this subject, several years ago, to a friend, who at that time, (I think in 1798) resided in Philadelphia, mentioning our success in this place, in checking the prevalence of typhus, by means of our fever-wards, and proposing a similar institution at Philadelphia."

" I take this opportunity of sending you an account of our proceedings here, on the plan of counteracting contagion, and I beg leave to recommend the institution of a permanent fever-ward at New-York to your attention. It is, at once, the most useful and the most popular of medical charities. You will see that we have determined

the question respecting the limits of contagion, and have proved that the true specific against its action is *dilution with atmospheric air.*"

" The observations on diabetes, which you will find in my first volume, have been confirmed by several other recent cases.

I am sir, your much obliged,
And very obedient servant,
J. FERRIAR."

Extract of a letter from Samuel Brown, M. D. &c. to David Hosack, dated New-Orleans, Oct. 15, 1807.

" You have no doubt seen the remarks of my learned friend, Mr. William Dunbar, of Natchez, upon the existence of vegetables and animals in the Ouachita Hot Springs, which I believe are of the temperature of boiling water. This is an extraordinary fact in vegetable physiology. I myself witnessed the counterpart of it some years ago in Lexington, (K.) The grains of wheat which were in the straws employed to cover a solid mass of ice in an ice-house, vegetated, and the solid transparent ice was penetrated to the depth of nine or ten inches, by innumerable fibres of the roots, which had *thawed* for themselves openings somewhat larger than the diameter of the fibres. The vital principle in vegetables as well as in animals, possesses the power of resisting, to a certain extent, the destructive influence of both heat and cold.

With great regard,
I am yours,
SAMUEL BROWN."

Canal Navigation.

We have already published the resolutions of the Legislature of New-York, relative to the contemplated canal between Lake Erie and the Hudson River, and the very interesting and satisfactory Report on the subject, drawn up by the committee appointed in behalf of the state.* With the view of completing all the official documents that may be presented to the public, we give place to the following Memorial, presented by the commissioners in behalf of this state, and referred to a committee of nineteen members :

To the honourable the Senate and House of Representatives of the United States, in Congress.

The undersigned, commissioners of the state of New-York, respectfully represent, that by a law of which they have taken the liberty to transmit an exemplified copy to the president, they are, among other things, directed to make application to the Congress of the United States for their co-operation and aid in making a canal navigation between the great lakes and Hudson's river, which, in the opinion of the legislature of New-York, will encourage agriculture, promote commerce and manufactures, facilitate a free and general intercourse between different parts of the United States, tend to the aggrandizement and prosperity of the country, and consolidate and strengthen the union.

To these powerful incentives we feel it a duty to add our conviction, that, in a fixed point of view, this object

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* See Register, vol. 1. p. 110, and vol. 1. p. 491.

is not unworthy of public regard; seeing that by a good navigation from the lakes to the ocean, and by that alone, the speedy sale of, and payment for many millions of acres of public lands can be effected.

We might add other considerations; but as doubts may, in course of the business, arise, and explanations be required, we have deemed it advisable to depute two of four members, De Witt Clinton and Gouverneur Morris, to be bearers of this application to the seat of government, with instructions to enter, from time to time, into all needful expositions.

We crave on the part of the state of New-York the credence and favourable notice of their representations.

And as in duty bound shall ever pray.

GOUVERNEUR MORRIS.
DE WITT CLINTON.
SIMEON DE WITT.
W. NORTH.
THOMAS EDDY.
ROBERT R. LIVINGSTON.
ROBERT FULTON.
PETER B. PORTER.

Message of the President of the United States to the Senate and House of Representatives.

I communicate to congress copies of an act of the legislature of New-York, relating to a canal from the Great Lakes to Hudson's river. In making the communication I consult the respect due to that state, in whose behalf the commissioners, appointed by the act, have placed it in my hands for the purpose.

The utility of canal navigation is universally admitted. It is not less certain that scarcely any country offers more

extensive opportunities for that branch of improvement than the United States; and none, perhaps, inducements equally persuasive, to make the most of them. The particular undertaking contemplated by the state of New-York, which marks an honourable spirit of enterprise, and comprises objects of a national, as well as more limited importance, will recal the attention of congress to the signal advantages to be derived to the United States, from a general system of internal communication and conveyance; and suggests to their consideration whatever steps may be proper on their part towards its introduction and accomplishment. As some of those advantages have an intimate connection with arrangements and exertions for the general security, it is at a period calling for these that the merits of such a system will be seen in the strongest lights. JAMES MADISON.

Washington, Dec. 23, 1811.

Report of the Commissioners appointed to attend at the seat of the general government.

Your committee, appointed to attend at the seat of the general government, for the purpose of forwarding the memorial respecting the projected Canal, beg leave to Report:

That they proceeded to the seat of the general government, by the way of Lancaster, where they took measures to obtain the concurrence of the Legislature of Pennsylvania.

On the twenty-first of December, they waited on the president of the United States, and found him, although he expressed himself to be an enthusiast as to the advantage of interior navigation, by means of canals, em-

barrassed by scruples derived from his interpretation of the constitution. At the close of their visit, however, he was in a better disposition, which is evidenced by his message to congress, of the twenty-third December, a copy whereof is annexed. [*See the preceding message.*]

On the twenty-fourth they attended at the Treasury Office, and found the secretary desirous of performing this, and other works of a similar nature, conformably to the plan which he had reported at the precedent session.

He was of opinion that, under present circumstances, pecuniary aid would not be given; but that sufficient grants of land might be now made without inconvenience to the fiscal concerns of the union. And these grants be afterwards redeemed by cash, when the treasury should be in a more prosperous condition.

Your committee found an idea prevailing with some, and zealously inculcated on others, that it would be wise so to amend the constitution, as expressly to authorise the general government to incorporate banks and make roads and canals without consent of the states.

This suggestion arose, they believe, from a desire to resuscitate the national bank; it being presumable that gentlemen who had declared the old charter to have been unconstitutional, could not be prevailed on to grant a new one. It appeared, therefore, to your committee, that the proposed amendment being intended to get clear of the difficulty respecting the bank; other objects were introduced rather as a convenient cover than as needful concommitants.

Whatever may be the case with respect to banks, the proposed amendment, so far as regards roads and canals, appeared to your committee worse than useless; because

the power to apply national treasure to such objects, with consent of the respective states, is unquestionable, and so far as relates to roads, has been sanctioned by frequent usage. On the subject of banks and roads, nevertheless, they did not find themselves called on to express their sentiments, but felt it a duty to declare, on all proper occasions, a decided opinion, that the states would not consent to vest in the national government a power to cut up their territory, for the purpose of digging canals.

Your committee found another idea operating with baleful effect, though seldom and cautiously expressed. The population and resources of the state of New-York, furnish no pleasant reflections to men, whose minds are imbued with state jealousy; and although the proposed canal must not only be of the highest importance to the western states, as well as to the states of Pennsylvania and Maryland, and greatly promote the prosperity of the whole union, it was obvious that an opinion of its superior benefit to this state was sedulously inculcated. An opinion which, there is reason to fear, will have but too much influence in every consideration of this subject.

Although the president's message, above mentioned, together with the petition of the board of commissioners, was immediately referred to a large committee; it was not until after a lapse of sixteen days, (viz. on the eight of January) that your committee was summoned to attend.

Marks of reluctance were perceptible, but in the close of the conference, a disposition to consider the subject more fully and more favourably prevailed; still, however, it was evident that the object of this state would not be separately attended to.

Your committee were desired to prepare a general system; and they had already learned in the course of their conversations with individuals, that unless something was done for many of the states, the consent of a majority of the house of representatives could not be obtained.

After the meeting just mentioned, your committee proceeded to the treasury office, conferred with the Secretary, and, conformably to his ideas, fixed on a tract of land, to be appropriated to the objects in contemplation. In the evening of the tenth, they again met the committee of congress, and submitted to their consideration the draft of a bill, embracing the principal objects contained in the Secretary's report, already referred to, of which bill a copy is annexed.

On the fifteenth of January, the committee of congress determined to report in favor of canals, and appointed a sub-committee to prepare that report. Thus the main difficulties seemed to be surmounted, and there was good ground to believe that, if the report should be brought speedily before the house of representatives, the assent of a majority would be obtained. But the sub-committee, for reasons which, though unknown, are presumed to have been weighty, delayed the report, notwithstanding the solicitations of one of your committee, who remained until the twenty-sixth, in the hope of being able to prevail on them to accelerate their movements, and not to adopt every amendment which might be proposed, in order to conciliate the opinion of the proposer; a dangerous course which frequently loads a reasonable system with so much objectionable matter as finally to sink it. Moreover, it was feared that the object might be lost by delay; for there might be some who, though they would

not hazard reputation by voting against it, would gladly avail themselves of pretexts to postpone a decision till the session should be brought to a close.

Your committee have learnt, by letters from Washington, that the report of the sub-committee, after being canvassed in the general committee, received but four out of thirteen votes, and that another sub-committee was thereupon appointed, to state the reasons why it is thought improper for congress to act upon the subject of canals this session. Your committee will not attempt to imagine the motives for so great a change of conduct, if not of sentiment, in the gentlemen who composed the general committee. The board will judge on the face of facts above stated.

The importance of the object to the United States is too manifest to admit of question, and the offer of New-York too fair to admit of cavil. The reason assigned for withholding, not only an immediate advance, but even an eventual appropriation, viz. that the resources of the country may be required to support a war, although more plausible than solid, may be admitted as sufficient with many well meaning men.

But this reason does not apply to a conditional grant of land, which shall not take effect until the canal shall be completed. Such grant will not, it is presumed, be expressly denied, and the reasons to be assigned why it cannot be made now, will speak for themselves.

Your committee have learnt that some speak slightly of the canal, as a project too vast; while others are so weak as to question the ability of the state to bear the expense, as if an expense of five or even ten millions of dollars, payable in twenty years, would be a serious,

much less oppressive effort for a million of men. Others again, who have too much understanding to doubt the resources of the state, and too much prudence to expose themselves to ridicule, by expressing such doubt, triumphantly declare, that her legislature has not the spirit and intelligence to draw out and apply her resources to that great object.

These men console themselves with a hope that the envied state of New-York will continue a supplicant for the favour, and dependent on the generosity of the union, instead of making a manly and dignified appeal to her own power.

It remains to be proved, whether they judge justly who judge so meanly of our councils.

All which is humbly submitted.

Extract of a letter from Colin Chisholm, M. D. F. R. S. &c. *addressed to Dr. Hosack : dated Clifton, August* 21, 1811.

I have read Dr. Smith's Essay on the varieties of the Human Species with great pleasure and satisfaction : indeed it is astonishing there should be controversy on this point, and if a few simple natural questions were put to the inquirer, by himself, before he draws a conclusion, I am persuaded his mind would readily enough perceive, that the unity of man is a truth unassailable. Thus, was man created ? By whom created ? Whence our knowledge of the fact ? Is the source of this knowledge certainly and indisputably authentic ? Are there proofs of its being derived from divine inspiration ? or is it human invention ? If we are satisfied that God himself has sanctioned the history of the fact, no doubt can remain, that

"God created *man* in his own image; in the image of God created he *him: male and female created he them.*" Therefore, the whole of the inquiry terminates in one proposition, one unalterable fact, one eternal truth, that all mankind, with all their varieties, have proceeded from one pair, a unity of genus and species; and that a plurality of species of mankind is false, a delusion offspringing from unfounded premises, fanciful analogy, and precipitate conclusions. It is, in short, a truth so obvious, as to be reducible to a logical syllogism, thus: the Bible is a book of divine authority, and declares the unity of genus and species of man as a created being; but the Bible is divinely true, therefore, the unity of man is certainly true. But, go further, examine the internal structure of man, inquire into his faculties; you will find in both proofs of the unity of genus and species; the former undeviatingly the same in all countries, and under all circumstances; the latter fundamentally the same also, and diversified only by culture. If we proceed in another course, make our criterion that principle which Ray, Buffon, and others have laid down, viz. the power of procreating an offspring that shall itself be endued with similar prolific powers; or that other, which Dr. Blumenbach hath resorted to, viz. animals ought to be ranked in the same species, when their general form and properties resemble one another, and the differences which subsist among them may be derived from some degenerating cause; the result will be the same. But, I conclude as I began, by asserting, that in an inquiry of this nature, human reason must be considered as proving nothing, unless it founds its arguments on established and authentic principles; the principle here, on which our conclusion should rest, is divine; therefore, we are to resort to it, and

it only; and by it we know the unity of genus and species of man; and that plurality is a mere human doctrine without support, a cloud floating in the atmosphere, dissipated by the sunshine of divine authority. This is my creed with respect to the varieties of the human race, and it accords so much with Dr. Smith's, that in its great points, at least, no discrepancy exists. There are, however, some trifling differences, which, on another occasion, I may perhaps take leave to point out. At present I shall only mention what Dr. Smith says of the pigmies of Madagascar, p. 147. He takes for granted, that the whole history of this diminutive race is a mere fable, or if there is any truth in it, that it has been greatly exaggerated. I have no right to contradict this assertion, but until the following statement is disproved, I must withhold perfect assent to it. During a few months residence in the island of St. Croix, in 1796, I met at the house of one of my friends, a French gentleman of respectability, of Martinico, but last from the island of St. Thomas. From this gentleman, Mr. Baudin, I received the following very curious and interesting narrative. Mr. Baudin stated to me, that his brother, also a native of Martinico, who had been bred to science, and had made natural history and medicine his more immediate pursuit, was employed by the late emperor of Germany on a voyage which had, in part, for its object, the discovery of a singular race of men in the island of Madagascar, of small stature, or pigmies. He proceeded on this voyage, from the port of Trieste, in the year 1792 or 3. The interesting object of it was completely obtained, for Mr. Baudin received such information, and such assistance from the natives, as enabled him to penetrate into the interior parts of Madagascar, where the nation of these singular people was established. He

resided fifty days among them, and gained their confidence so entirely, that one man, thirty-five years old, was induced to embark with him, and he was permitted to take away a child of a year old. Mr. Baudin gave the following particulars of the Kimos: They are never of larger stature, when fully grown, than from thirty-two to thirty-six inches; they are of a tawny, or very light copper colour; they are very active and intelligent, and use, as offensive weapons, the bow and arrow; they are remarkably well proportioned, and possess very handsome features, with long black hair; and the community Mr. Baudin resided among amounted to eight thousand; but the whole nation was very numerous. The man and child died some time after the ship left Madagascar; the body of the former was properly injected, and prepared by Mr. Baudin, and that of the latter preserved in spirits. These preparations, with other curious subjects of natural history, were sent to my informant by his brother, and, as a place of greater safety, he deposited the collection at Mr. Ekard's house in St. Thomas's. This narrative recalled to my memory some account I had read in the Critical Review, 1792, of the Abbi Rochon's voyage to Madagascar, in which a nation of pigmies is mentioned, as actually existing in that island: but to ascertain the point, I visited St. Thomas, in November 1796, when I found unfortunately that Mr. Baudin had gone to North America; but his friend, Mr. Fleicher, furnished me with the means of gratifying my curiosity. I was very particular in my measurement, in which the late Mr. John Ryan, of St. Croix, an excellent naturalist, assisted me, and found the dimensions as follows:—The whole length 32 inches; circumference of the cranium, 18 1-2 inches; from the coronal suture to the chin, 6 1-2 inches; nasal bones, 1 1-4

inch; length of thorax, 6 1-4 inches; of abdomen, 7 inches; femur, 6 1-2 inches; fibia, 6 1-2 inches; foot, 4 3-8 inches; humerus, 5 1-2 inches; fore arm, 5 inches; hand, to extremity of the index, 3 3-8 inches; teeth, dentes canini, 2; incisores, 4; molares, only 4 visible in each jaw, all fully formed, and beyond doubt adult. The preparation of the child measured one foot in length. I forbear to make any remarks, further than to say, that here the authority seemed respectable, there was no inducement to impose, the information came spontaneously, nor was there any theory to support; it appeared, in truth, a mere matter of fact, related by the brother of the person who had resided among the Kimos, and in whose possession specimens were preserved, which specimens I actually examined. Compare this with the account which M. Rochon has given, and principally from the information of M. De Modavi, the governor of Fort Dauphine, in 1769. This officer fully ascertained the existence of the Kimos as a nation, by sending detachments into the country for that purpose. He concludes with this remarkable observation, "that it is certainly nothing wonderful to meet with dwarfs in a country so vast and extensive as Madagascar, the surface of which contains various climates, and abounds with a multitude of different productions; *but a real race of pigmies living in society, is a phenomenon that cannot well be passed over in silence.*" As to the weight of evidence between this statement, and that which Dr. Smith quotes from the Baron de Clugny, I shall not presume to decide; it is indeed for the purpose of being enabled to decide with some degree of certainty, that I have enlarged so much more on the subject than I originally proposed. As M. Baudin returned to New-York, you may probably have heard

of, or have known him, and where he at present resides; in either case, you may be enabled to obtain access to further and more circumstantial information on a point of physiology extremely useful and interesting. I am aware that in the only other account of Madagascar we have of a modern date, viz. Drury's narrative, no mention is made of the Kimos; and yet Flacient mentions them, although he disbelieves their existence. Flacient and Modavi were men in authority, governors of French settlements; Drury, a prisoner, and extremely ignorant.

New method of operating upon the Eye for Cataract: contained in a letter to Dr. Mitchell, from A. H. Stevens, M. D. dated London, January 3, 1812.

Another valuable work came out yesterday, *Saunder's on the Eye*, edited by Dr. Fare. Mr. S. has proposed to cure cataract, by an operation different from extraction or depression, to wit, scratching the capsule of the crystalline lens, in order to expose it to the dissolving and absorbing power of the aqueous humour, an effect which has been found to take place usually in about six weeks, more or less, according to the seat and structure of the cataract.

The operation is very simple; a needle smaller than Hey's, and flattened at the point, is plunged through the pupil, to the middle and anterior part of the crystalline, the external orifice being either just behind the transparent cornea, or through it. The latter mode is the most easy, and rather preferred by Mr. S. The capsule being torn a little, the needle is withdrawn, the whole operation being finished. Two operations are generally requisite to complete the cure. The chief accident liable to occur

is, the protrusion of the lens against the iris, either during the operation, from too much pressure upon the eye, or subsequently, after a cure is partially effected, by a removal of some part of the circumference of the capsule, leaving the lens thus open to the power of the aqueous humour at these places, and consequently the remaining portion, after this is absorbed, without any thing to keep it from falling forward, to the injury of the delicate and important membrane I have mentioned.

Both these effects may be easily avoided, and this new operation has the merit of simplicity and safety. Mr. S. and Astley Cooper speak in the highest terms of its success. It has moreover this advantage, that it applies to those hitherto hopeless cases of congenital, and chiefly capsular cataract, which are so common.

Valuable additions to the New-York Hospital Library.

It is with peculiar satisfaction we announce, that the enlightened board of governors, who direct the concerns of the New-York Hospital, have lately made a large addition, of the most splendid and useful works on botanical science, to the already very extensive library belonging to that institution. By this public spirited act, so honourable to their intelligence, and calculated in its effects to be attended with so many advantages, they have given permanency to a collection of books, illustrative of one of the most important branches of natural knowledge. This collection, the result of many years exertions, was purchased from the late proprietor of the state botanic garden, and both as to the number and nature of the works which it contains, is superior to any other in this country.

Among the numerous productions of genius and learning which it contains are the following:

Flora Londinensis; Flora Piedemontana; Flora Danica; Flora Atlantica; the Floræ Americanæ of Jacquin, Wangenheim, of Michaux, of Catesby; English Botany of Smith; Botanical Magazine of Curtis; Historia Plantarum of J. Bauhin; Pinax Botanica of C. Bauhin; Flora Rossica of Pallas; Encyclopedie Methodique et Botanique of Lamarck; Institutiones rei Herbariæ of Tournefort; besides, the principal writings of L'Heritier, Smith, Haller, Sowerby, Thunbergh, Vahl, Dickson, Duhamel, Gmelin, Goertner, Berkenhout, Dillenius, Gilibert, Grew, Ludwig, Martyn, Murray, Necker, Swartz, Schreber, Sibthorp, Willdenow, Linnæus, &c. &c.

[In compliance with the request of the Students, a place is given to the following Address.]

At a meeting of the Students, who attended the several courses of Lectures in the College of Physicians and Surgeons of this city, held at the College Buildings, Pearl-street, on Saturday, the 29th of February, 1812, ISAAC ROOSEVELT, *in the Chair, and* CHARLES DRAKE, *Secretary—It was Unanimously Resolved, That the following Address of thanks to the Professors, for the ample and satisfactory courses of instruction, which they have just completed for the present session, be made public.*

GENTLEMEN,

Grateful for the excellent and extensive courses of medical instruction, delivered by you during the present session of the College, we should do injustice to our feelings, did we not now, that we are about to separate, thus publicly offer a testimony of our high sense of the numerous advantages we have derived from our connection with the institution to which you belong. From the

liberal endowments which have already been made, and by appointing as professors, gentlemen of such acquirements and acknowledged abilities in the various sciences connected with medical philosophy, the Honourable the Regents of the University of this State have evinced their wisdom, and have placed the College of Physicians and Surgeons on a basis too strong to be affected by the animosity of individuals, and which affords the surest pledge of its future prosperity and usefulness. Considering this city as affording superior natural advantages to any other in the union, for the establishment of a permanent and respectable medical school, we cannot but believe that that honourable body will still continue to extend their beneficence to an object so important and honourable to our state, and by their fostering care aid in the advancement of an Institution, which, though still in its infancy, has indeed done much in disseminating medical knowledge.

To the Professor of Anatomy and Surgery, Dr. John Augustine Smith, we feel ourselves much indebted for the able and satisfactory course on the branches to which he has been chosen. His minute and accurate knowledge of the human structure, and his abilities as a surgeon, enabled him to elucidate the principles of that science in a manner as comprehensive as correct, and his extended views as a physiologist could not fail to interest while they conveyed the clearest impressions.

We would be wanting in gratitude, did we refrain from tendering our warmest acknowledgments to Dr. David Hosack, the teacher of the Theory and Practice of Physic and Clinical Medicine, and of Midwifery, and the Diseases of Women and Children. His laudable zeal;

his unremitted perseverance,* in rendering his important course as useful and instructive as possible; his happy facility in removing the veil of obscurity which so generally envelops the systems of medical writers; his assiduity in pointing out their excellencies as well as defects; his peculiarly successful manner of distinguishing diseases, and establishing the principles of practice, on the accurate observations of himself and others; the candour with which he made known to us the result of his own extensive experience; his forcible eloquence, arising from a conviction of their great importance, have left impressions on our minds which will never be erased.

To our learned and much respected Professor of Chemistry and Pharmacy, Dr. James M'Neven, we offer, with no less sincerity, our united thanks. While so happily illustrating the principles of chemical science, nothing was omitted which could be useful to his auditors; the test of experiment never failed to verify the correctness of his observations. His elaborate course was in an especial manner calculated for the medical student, and gave universal satisfaction; at the same time that it impressed upon our minds the importance and utility of the science of chemistry, as connected with the healing art.

Ever, gentlemen, shall we have reason to congratulate ourselves in having been the pupils of such able teachers, and we may proudly say that your endeavours to promote our knowledge in the various branches of the exalted science of medicine, have not failed of success. May every returning session enable you to employ your talents

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* Dr. Hosack has delivered, during the present session, upwards of one hundred lectures on the Theory and Practice of Physic and Clinical Medicine, exclusive of a separate course on Midwifery.

for the benefit of still increasing audiences, and your influence in disseminating medical knowledge, give additional lustre to your names, and to the institution with which you are so intimately connected.

ISAAC ROOSEVELT, Chairman.
CHARLES DRAKE, Secretary.

New-York, March 4th, 1812.

Eau Medicinale.

A late London publication asserts, "that the gout medicine of Mr. Husson has been indisputably discovered by Mr. Moore, the surgeon. A bottle of the Eau Medicinale (he says) consists of a dram and a half of the wine of white hellebore, mixed with half a dram of vinous laudanum. Mr. Moore has clearly shewn that Mr. Husson took the idea from the elder Pliny; and the above composition has been found to have the taste, smell, and the precise effects, of the French medicine."

Dr. Eddy's Lectures on Botany.

DR. C. W. EDDY, of this city, has announced his intention of delivering a course of Lectures on Botany, to commence on the first Wednesday in May next. The object of these lectures will be, to unfold the anatomy and functions of the vegetable body, to illustrate the principles upon which botanical science is founded, and to point out, as far as may be necessary, the peculiar excellencies and defects of the several systematic writers. Particular attention will be paid to the arrangement of vegetables, according to the artificial or sexual system of Linnæus, as improved by the latest botanists, and to the natural orders of Jussieu. During the whole course, the lecturer will avail

himself of all the advantages calculated to render the instruction that may be given, a system of practical botany; and for this purpose, repeated visits will be made to the state botanic garden. The merits of Dr. Eddy, in this department of knowledge, are already too well known to be here mentioned. We shall only add, that a science in itself highly useful and agreeable, will possess additional claims to attention, when unfolded in the able manner now proposed.

Dr. Sanford's Preparations of the Bark.

In our present number, page 398, may be found a very interesting communication on the medical virtues of the Peruvian and other barks. It is with great satisfaction we state, that the author of that paper, Dr. Sanford, after more than twenty-five years observation on the effects of bark as a medicine, and no less than ten years attention to the different methods of preparing it, has at length formed an establishment, at Greenwich, (Con.) with the view of furnishing the profession with the several species of genuine Peruvian Bark, in the states of an essential salt, powder, &c. &c. On a circumstance of so great importance, we cannot but congratulate the community at large, upon whose confidence and support Dr. Sanford is justly entitled to the strongest claims.

Observations on the Weather of the City of New-York, for the months of January, February, and March, 1812.

JANUARY.

The weather of January was not particularly distinguished either for its mildness or severity, though there were often considerable variations in its temperature.

On the 9th it became overcast, and there fell a small quantity of snow; more snow fell on the 13th and on the 20th, in which interval the ordinary height of the thermometer was about 16 degrees. For the remaining days, the atmosphere was generally either cloudy or overcast, and sometimes very humid: height of the thermometer about 35, at 2 P. M. Wind S. W. or N. E.

FEBRUARY.

There were many days in February either cloudy, overcast, or rainy; and in the degrees of cold they differed but little from those of January. On the 8th, the mercury stood at 7 A. M. at 45, at 3 P. M. at 49, and at 7 P. M. at 46, the most moderate day in the month. We had light falls of snow, on the 12th, 16th, and 21st; and on the 23d, rain, with wind from the N. E. On the 27th the thermometer stood at 7 A. M. at 10, at 3 P. M. at 23, and at 7 P. M. at 24 degrees.

MARCH.

We experienced many overcast and rainy days in March, and many sudden and great changes in the temperature of the weather; the degree of cold generally about the freezing point. On the 14th, the thermometer stood at 7 A. M. at 31, at 3 P. M. at 32, and at 7 P. M. at 27, and nearly the same for several days subsequent. Wind N. and N. E. The latter part of the month it became much more pleasant, and the mercury, on the 27th, was as high as 63 at 3 P. M.

Observations on the Diseases of the City of New-York, during the months of January, February, and March, 1812.

The vicissitudes of the weather, during the above mentioned months, particularly in February and March, have

been, as already noticed, unusually great and sudden.—In correspondence with these vicissitudes, have been the variety and character of the diseases which have prevailed during the same period: since the memorable epidemic yellow fever of 1798, our city has never exhibited so much sickness, nor have its diseases been attended with more violence and fatality. During this period, there is scarcely a disease, of an inflammatory nature, which has not prevailed to a great extent, and in most cases, been attended with an extraordinary degree of violence, and demanded the most active treatment.

Common *catarrh* was attended with so much inflammation and fever, that in some cases repeated blood letting and other powerful evacuations were absolutely necessary. In one case of pneumonic inflammation occurring in an infant six weeks old, after the use of emetics, purgatives, a blister to the chest, the warm bath, and antimonials had been employed in vain, it yielded only to two copious bleedings. We mention this case in particular, because we have remarked that practitioners do not appear to be sufficiently impressed with the importance and necessity of this remedy in the inflammatory diseases of infancy, of which pneumonia and croup are the most frequent in this country.

Inflammation of the throat, especially, when the physician was not called early, or venesection and other means were not freely employed in the commencement of the disease, has, in several cases, ended fatally by an effusion in the windpipe and bronchiæ, assuming all the characters of croup; in other cases it proved fatal by rapidly terminating in sphacelus.

Peripneumony, in like manner, when early and large evacuations had not been prescribed, soon ended in the

typhoid type which that disease occasionally exhibits, especially when the practitioner may have been deceived by the insidious nature of its approach, and the want of those more urgent symptoms which usually attend pneumonic inflammation, and thence may have neglected the lancet and the use of those means which otherwise would have afforded immediate relief. This leads us also to remark, that we have, in many instances, employed blood-letting with the most happy effects, in many cases of incipient *phthisis* even where strong hereditary predisposition existed. Indeed, we are induced from some late observations on this subject, to express the opinion that in the commencement of phthisis as in peripneumony, blood-letting is not sufficiently employed, but is too frequently neneglected until the inflammation has so far extended that suppuration becomes inevitable. Nor do physicians in general, appear to have been sufficiently attentive in describing the symptoms characteristic of the first or inflammatory stage of phthisis, and consequently have been regardless of that active antiphlogistic treatment which alone can prevent the tuberculous or suppurative stage. Inasmuch as suppuration or a purulent secretion from the lungs necessarily implies preceding inflammation, we conceive too early attention cannot be given to the premonitory symptoms which announce the inflammatory stage, but which are frequently so inconsiderable, being seated in the less sensible, the cellular portion of the lungs, that both physician and patient are alike regardless of the present symptoms, and of the consequences to which they lead. Instead, therefore, of trusting to *syrups*, *anodynes*, *pectorals*, or *ptisans*, to allay the occasional dry hacking cough and pains of the chest, which indicate the first approach of the disease, we earnestly recommend the same active

treatment, by *blood-letting*, blisters, and other means of diminishing excitement, as are employed in the treatment of a pleurisy, or any other acute inflammation; and we could add, in confirmation of our view of this subject, many recent cases, in which the practice here recommended has been attended with the most happy results.

In the last number, some remarks were made upon *angina pectoris;* since that time, one of the cases referred to has terminated fatally. Upon examining the body after death, the pericardium was found to contain a considerable quantity of water; the heart, loaded with fat; the vessels, especially the aorta and venæ cavæ, out of all proportion large when compared with the size of the heart, which was smaller than usual. No ossification was found, either of the valves of the heart, or of the coronary arteries. These facts are certainly in correspondence with the opinion we have already expressed upon this subject, that the disease arises from a plethoric state of the blood vessels. The large deposit of fat observed in this instance, as well as in other cases recorded, the effusion of water in the pericardium, the preternaturally distended state of the vessels themselves, are all favourable to this conclusion.—The parts preserved are in the possession of the writer.

OBITUARY.

DIED. At Kingston, (W. I) in July last, THOMAS DANCER, M. D author of the "Medical Assistant, or Jamaica Practice of Physic," and late Physician to the Bath, and Island Botanist.

At New-Orleans, on the 20th of October last, Don JOSEPH ROXAS, Professor of Mathematics in the Orleans College.

At Virginia, on the 6th of March, JAMES MADISON, LL. D. Bishop of the Episcopalian Church of that state, and President of William and Mary College.

At New-York, on the 17th of March, EDWARD MILLER, M. D. Resident Physician of the port of New-York, and one of the Editors of the Medical Repository. A biographical account of this distinguished physician, accompanied with an engraved portrait, shall appear in the Register.

RECENT AMERICAN PUBLICATIONS.

Report of the Commissioners appointed by an act of the Legislature of the State of New-York, entitled "An Act to provide for the improvement of the Internal Navigation of the State," passed April 8th, 1811, for the consideration of all matters relating to the said inland navigation. 8vo. Albany. Southwick.

The History of Ann Moore; with a statement of the evidence substantiating the facts of her long abstinence, who died at Tulbury, in Staffordshire, England, on the 20th of July, 1811. By J. E. White, Physician of Savannah, Georgia. 8vo. Savannah. Seymour and Williams.

Two Lectures on Comets, read in the chapel of Harvard College, Cambridge, New England, in April, 1759, on occasion of the Comet which appeared in that month. With an Appendix, concerning the revolutions of that Comet, and of some others. By John Winthrop, Esq. F. R. S. Hollisian Professor of the Mathematics and Natural Philosophy at Cambridge. 12mo. Boston. Waite and Co.

An Essay on Comets, in two parts. Part I. containing an attempt to explain the phenomena of the tails of Comets, and to account for their perpetual opposition to the sun, upon philosophic principles.—Part II. pointing out some important ends for which these tails were probably designed; wherein it is shewn, that, in consequence of these curious appendages, Comets may be inhabited worlds, and even comfortable habitations; notwithstanding the vast eccentricities of their orbits. The whole interspersed with observations and reflections on the sun and primary planets. By Andrew Oliver, Jun. Esq. 12mo. Boston. Waite and Co.

The History of Georgia, containing brief sketches of the most remarkable events up to the present day. By Capt. Hugh M'Call. 8vo vol. I. Savannah. Seymour and Williams.

ERRATUM.

In Dr. Hosack's Classification of Diseases, p. 266. for "Cynanche Pharyngea," read "Cynanche Parotidea."

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